

# ***Service Manual***

# **TOYOTA**

ORDER NO.  
**CRT3000**

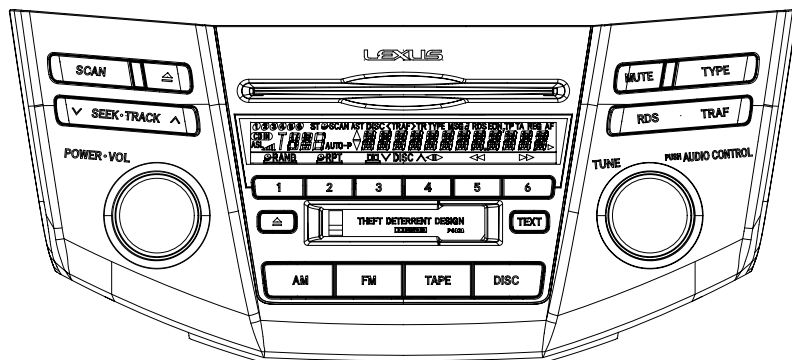
# **LEXUS RX330** **AUDIO SYSTEM** **HEAD UNIT**

| VEHICLE     | DESTINATION    | PRODUCED AFTER | TOYOTA PART No. | ID No. | PIONEER MODEL No. |
|-------------|----------------|----------------|-----------------|--------|-------------------|
| LEXUS RX330 | U.S.A., CANADA | February 2003  | 86120-48170     | P6828  | FX-M8427ZT/UC     |
| LEXUS RX330 | U.S.A., CANADA | February 2003  | 86120-48310     | P6828  | FX-M8427ZT-91/UC  |



For details, refer to "Important symbols for good services".

FX-M8472ZT/UC(P6828)



● This service manual should be used together with the following manual(s):

| Model No. | Order No. | Mech. Module | Remarks                                                            |
|-----------|-----------|--------------|--------------------------------------------------------------------|
| CX-977    | CRT2624   | S9           | CD Mech. Module:Circuit Description, Mech.Description, Disassembly |
| CX-1011   | CRT2406   | 3L           | Cassette Mech. Module:Mech.Description, Disassembly                |

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## SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

### ● CD section precaution



1. Before disassembling the unit, be sure to turn off the power. Unplugging and plugging the connectors during power-on mode may damage the ICs inside the unit.

2. To protect the pickup unit from electrostatic discharge during servicing, take an appropriate treatment (shorting-solder) by referring to "the DISASSEMBLY" on page 69.

3. After replacing the pickup unit, be sure to check the grating. (See p.59.)

### [ Important symbols for good services ]

In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely. When you find the procedures bearing any of the symbols, be sure to fulfill them:

#### 1. Product safety



You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

#### 2. Adjustments



To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

#### 3. Cleaning



For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

#### 4. Shipping mode and shipping screws



To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

#### 5. Lubricants, glues, and replacement parts



Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount. For replacement parts or tools, the prescribed ones should be used.

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# 1. SPECIFICATIONS

## General

|                  |                                 |
|------------------|---------------------------------|
| Power source     | 13.2V(10.5V-16.0V allowable) DC |
| Grounding system | Negative type                   |
| Backup current   | 0.3mA or less                   |
| Dimensions       | 319(W) x144(H) x174(D)mm        |
| Weight           | 2.3kg                           |

## Cassette player

|                   |                                         |
|-------------------|-----------------------------------------|
| Tape              | Compact cassette tape(C30-C90)          |
| Tape speed        | 4.76cm/sec.(+0.14cm/sec., -0.05cm/sec.) |
| Wow and flutter   | 0.2% or less(WRMS)                      |
| Crosstalk         | 40dB or less                            |
| Stereo Separation | 30dB or more                            |
| S/N               | 40dB or more                            |
| Distortion        | 3% or less                              |

## CD player

|               |                                     |
|---------------|-------------------------------------|
| System        | Compact disc audio system           |
| Usable discs  | Compact disc                        |
| Signal format | Sampling frequency : 44.1kHz        |
|               | Number of quantization : 16; linear |
| S/N           | 65dB or more                        |
| Distortion    | 0.3% or less                        |

## FM tuner

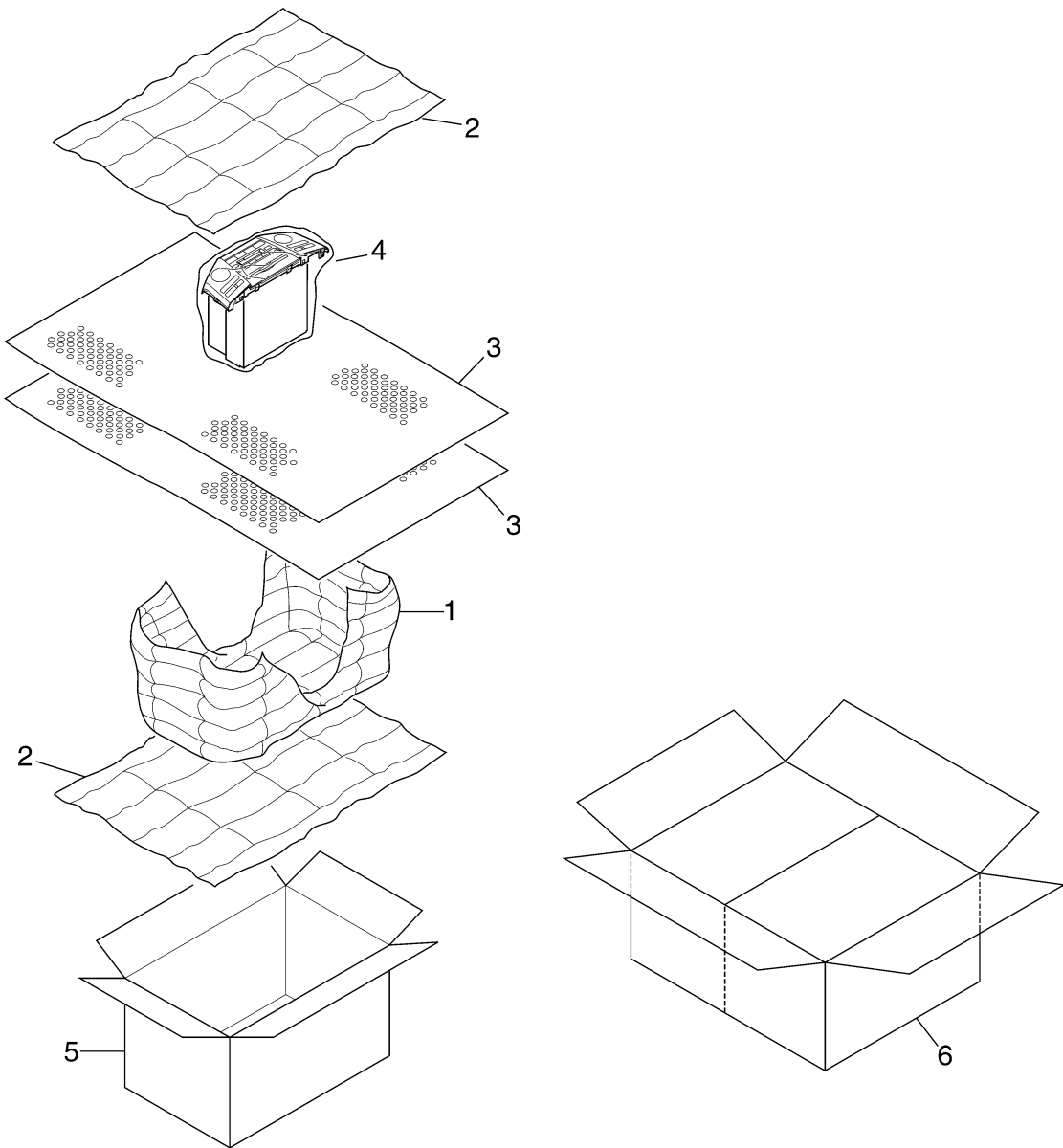
|                    |                                |
|--------------------|--------------------------------|
| Frequency range    | 87.75, 87.9–107.9 MHz          |
| S/N                | 46dB or more(54dB $\mu$ input) |
| Distortion         | 1.5% or less                   |
| IF interference    | 80dB or more                   |
| Image interference | 35dB or more                   |
| Stereo Separation  | 25dB or more(1kHz)             |

## AM tuner

|                             |                    |
|-----------------------------|--------------------|
| Frequency range             | 530-1,710 kHz      |
| S/N 20dB usable sensibility | 34dB $\mu$ or less |
| S/N                         | 42dB or more       |
| Distortion                  | 1.5% or less       |
| IF interference             | 55dB or more       |
| Image interference          | 45dB or more       |

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING(FX-M8427ZT-91/UC)



NOTE:

- Parts marked by “\*” are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ▽ mark on the product are used for disassembly.
- For the applying amount of lubricants or glue, follow the instructions in this manual.  
( In the case of no amount instructions, apply as you think it appropriate.)

● PACKING(FX-M8427ZT-91/UC) SECTION PARTS LIST

| Mark | No. | Description      | Part No. |
|------|-----|------------------|----------|
| *    | 1   | Air Cap          | CHW1945  |
| *    | 2   | Air Cap          | CHW1948  |
|      | 3   | Cover            | CEG1045  |
|      | 4   | Polyethylene Bag | CEG1174  |
|      | 5   | Carton           | CHG4861  |
|      | 6   | Contain Box      | CHL4861  |



5



6



7



8



A



B



C



D



E



F



5



6

FX-M8427ZT/UC



7

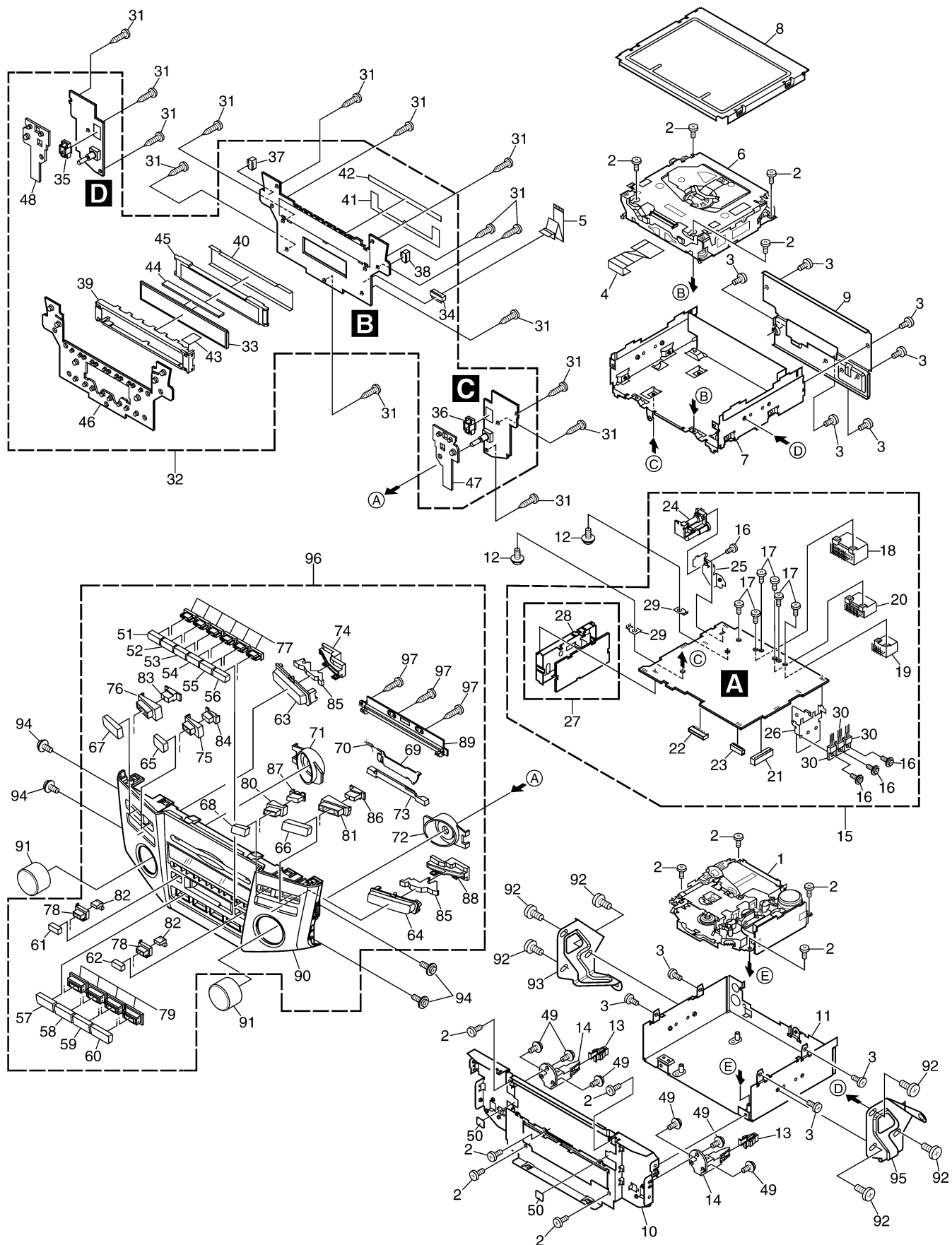


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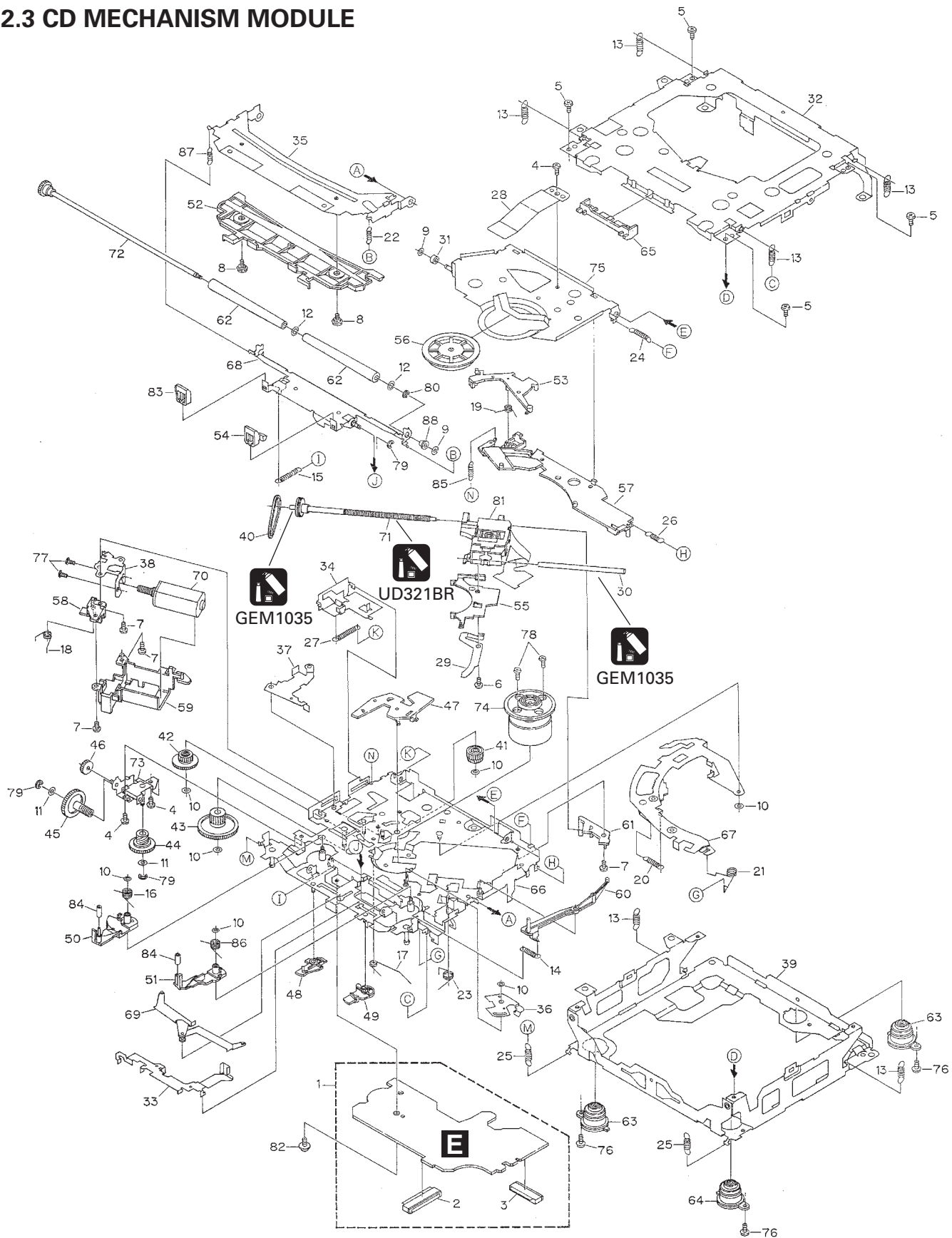
## 2.2 EXTERIOR



# ● EXTERIOR SECTION PARTS LIST

| Mark No. | Description               | Part No.     | Mark No. | Description        | Part No.     |   |
|----------|---------------------------|--------------|----------|--------------------|--------------|---|
| 1        | Cassette Mechanism Module | EXK4295      | 51       | Button(1)          | CAC7599      |   |
| 2        | Screw                     | BSZ26P060FTC | 52       | Button(2)          | CAC7600      |   |
| 3        | Screw                     | BSZ30P060FTC | 53       | Button(3)          | CAC7601      |   |
| 4        | Connector                 | CDE7248      | 54       | Button(4)          | CAC7602      |   |
| 5        | Connector                 | CDE7260      | 55       | Button(5)          | CAC7603      |   |
| 6        | CD Mechanism Module(S9T)  | CXK5521      | 56       | Button(6)          | CAC7604      |   |
| 7        | Chassis                   | CNA2466      | 57       | Button(AM)         | CAC7605      |   |
| 8        | Case                      | CNB2880      | 58       | Button(FM)         | CAC7606      |   |
| 9        | Holder                    | CND1792      | 59       | Button(TAPE)       | CAC7607      |   |
| 10       | Frame                     | CND1789      | 60       | Button(DISC)       | CAC7608      | B |
| 11       | Chassis Unit              | CXC1820      | 61       | Button(TAPE EJECT) | CAC7609      |   |
| 12       | Screw                     | ISS26P060FTC | 62       | Button(TEXT)       | CAC7610      |   |
| 13       | 90467-10203               | CNV5641      | 63       | Button(SEEK,TRACK) | CAC7611      |   |
| 14       | Guide                     | CNV7306      | 64       | Button(RDS,TRAF)   | CAC7612      |   |
| 15       | Main Unit                 | CWM8384      | 65       | Button(CD EJECT)   | CAC7613      |   |
| 16       | Screw                     | BMZ30P060FTC | 66       | Button(TYPE)       | CAC7615      |   |
| 17       | Screw(M3x6)               | CBA1393      | 67       | Button(SCAN)       | CAC7616      |   |
| 18       | Connector(CN801)          | CKM1322      | 68       | Button(MUTE)       | CAC7637      |   |
| 19       | Connector(CN473)          | CKM1350      | 69       | Door               | CAT2351      |   |
| 20       | Connector(CN472)          | CKM1351      | 70       | Spring             | CBH2663      | C |
| 21       | Connector(CN353)          | CKS3568      | 71       | Lighting Conductor | CNV7251      |   |
| 22       | Connector(CN351)          | CKS3835      | 72       | Lighting Conductor | CNV7252      |   |
| 23       | Connector(CN804)          | CKS4361      | 73       | Lighting Conductor | CNV7253      |   |
| 24       | Connector(CN501)          | CKX1064      | 74       | Holder             | CNV7256      |   |
| 25       | Holder                    | CNC9591      | 75       | Holder             | CNV7257      |   |
| 26       | Holder                    | CND1588      | 76       | Holder             | CNV7258      |   |
| 27       | FM/AM Tuner Unit          | CWE1630      | 77       | Holder             | CNV7259      |   |
| 28       | Holder                    | CNC8855      | 78       | Holder             | CNV7260      |   |
| 29       | Terminal(CN802,CN803)     | VNF1084      | 79       | Holder             | CNV7261      |   |
| 30       | Transistor(Q809,811,812)  | 2SB1185      | 80       | Holder             | CNV7316      |   |
| 31       | Screw                     | BPZ20P080FTC | 81       | Holder             | CNV7317      | D |
| 32       | Keyboard Unit             | CWS1364      | 82       | Lighting Conductor | CNV7319      |   |
| 33       | LCD                       | CAW1722      | 83       | Lighting Conductor | CNV7320      |   |
| 34       | Connector(CN901)          | CKS4361      | 84       | Lighting Conductor | CNV7321      |   |
| 35       | Connector(CN904)          | CKS4591      | 85       | Lighting Conductor | CNV7330      |   |
| 36       | Connector(CN905)          | CKS4591      | 86       | Lighting Conductor | CNV7467      |   |
| 37       | Connector(CN902)          | CKS4592      | 87       | Lighting Conductor | CNV7469      |   |
| 38       | Connector(CN903)          | CKS4592      | 88       | Holder             | CNV7472      |   |
| 39       | Holder                    | CND1788      | 89       | Holder Unit        | CXB8886      |   |
| 40       | Sheet                     | CNM7958      | 90       | Grille Unit        | CXB9134      |   |
| 41       | Seal                      | CNM7970      | 91       | Knob Unit          | CXB9458      | E |
| 42       | Seal                      | CNM7971      | 92       | Screw              | BMZ50P080FTC |   |
| 43       | Seal                      | CNM8261      |          | (FX-M8427ZT/UC)    |              |   |
| 44       | Connector                 | CNV7249      | 93       | 86211-48030-A      | CND1247      |   |
| 45       | Lighting Conductor        | CNV7250      |          | (FX-M8427ZT/UC)    |              |   |
| 46       | Rubber                    | CNV7323      | 94       | Screw              | IMS26P060FTC |   |
| 47       | Rubber                    | CNV7324      | 95       | 86212-48030-A      | CND1248      |   |
| 48       | Rubber                    | CNV7325      |          | (FX-M8427ZT/UC)    |              |   |
| 49       | Screw                     | IMS26P060FTC | 96       | Grille Assy        | CXC2064      |   |
| 50       | Sheet                     | CNM8435      | 97       | Screw              | BPZ20P080FTC |   |

## 2.3 CD MECHANISM MODULE



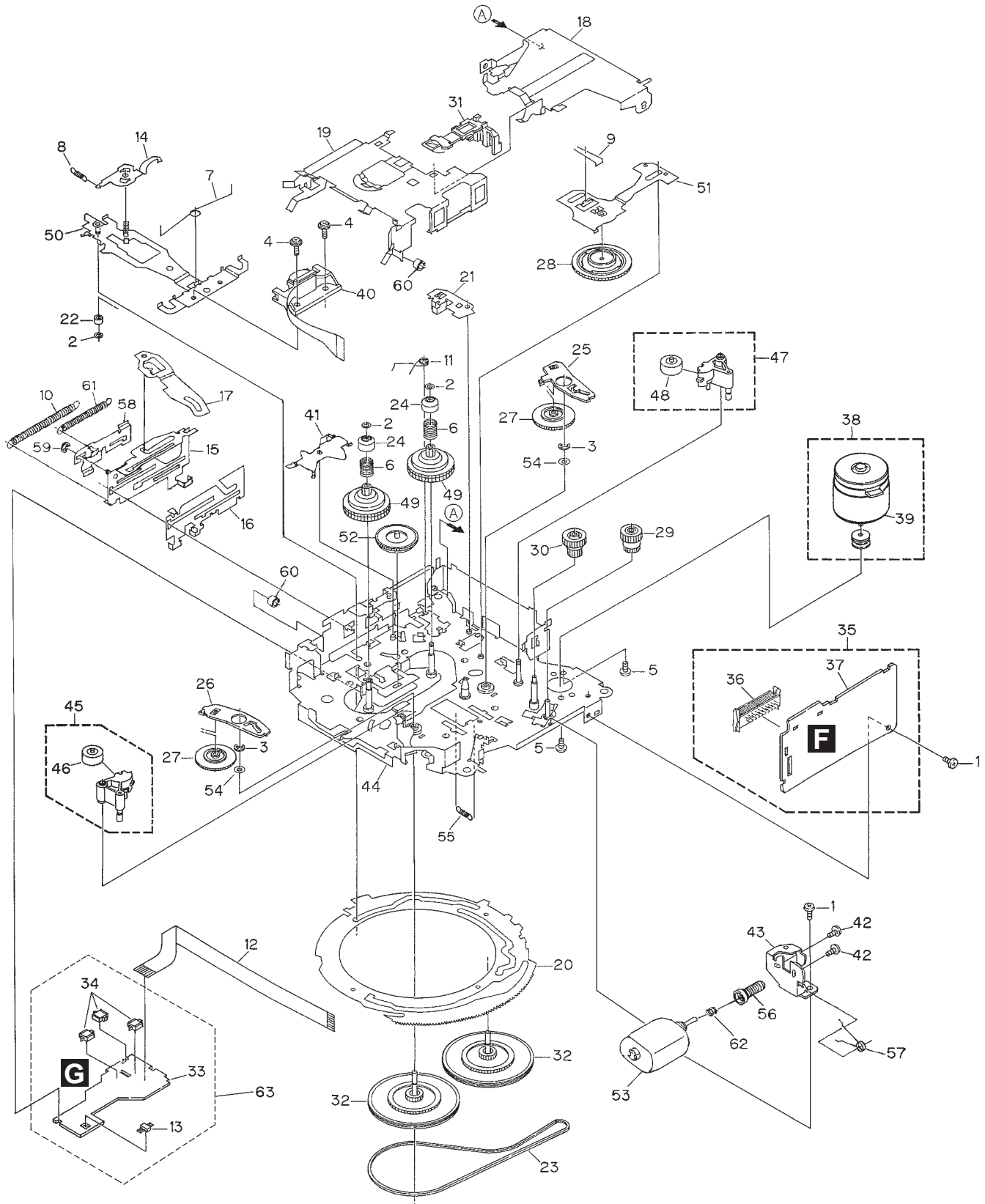
# ● CD MECHANISM MODULE SECTION PARTS LIST

| Mark No. | Description      | Part No.     | Mark No. | Description              | Part No.     |
|----------|------------------|--------------|----------|--------------------------|--------------|
| 1        | Control Unit     | CWX2608      | 46       | Gear                     | CNV6320      |
| 2        | Connector(CN701) | CKS1959      | 47       | Arm                      | CNV6322      |
| 3        | Connector(CN101) | CKS3486      | 48       | Arm                      | CNV6323      |
| 4        | Screw            | BMZ20P025FMC | 49       | Arm                      | CNV6324      |
| 5        | Screw            | BSZ20P040FMC | 50       | Arm                      | CNV6888      |
| 6        | Screw(M2x4)      | CBA1362      | 51       | Arm                      | CNV6889      |
| 7        | Screw(M2x3)      | CBA1527      | 52       | Guide                    | CNV6327      |
| 8        | Screw            | CBA1545      | 53       | Arm                      | CNV6924      |
| 9        | Washer           | CBF1037      | 54       | Guide                    | CNV6921      |
| 10       | Washer           | CBF1038      | 55       | Rack                     | CNV6923      |
| 11       | Washer           | CBF1039      | 56       | Clamper                  | CNV6331      |
| 12       | Washer           | CBF1060      | 57       | Arm                      | CNV6332      |
| 13       | Spring           | CBH2378      | 58       | Guide                    | CNV6333      |
| 14       | Spring           | CBH2379      | 59       | Cover                    | CNV6334      |
| 15       | Spring           | CBH2514      | 60       | Arm                      | CNV6335      |
| 16       | Spring           | CBH2533      | 61       | Guide                    | CNV6336      |
| 17       | Spring           | CBH2382      | 62       | Roller                   | CNV6338      |
| 18       | Spring           | CBH2383      | 63       | Damper                   | CNV6175      |
| 19       | Spring           | CBH2384      | 64       | Damper                   | CNV6662      |
| 20       | Spring           | CBH2527      | 65       | Guide                    | CNV6925      |
| 21       | Spring           | CBH2386      | 66       | Chassis Unit             | CXB7980      |
| 22       | Spring           | CBH2537      | * 67     | Arm Unit                 | CXB7983      |
| 23       | Spring           | CBH2390      | 68       | Arm Unit                 | CXB7984      |
| 24       | Spring           | CBH2391      | 69       | Arm Unit                 | CXB7985      |
| 25       | Spring           | CBH2523      | 70       | Motor Unit(M2)           | CXB8284      |
| 26       | Spring           | CBH2426      | 71       | Screw Unit               | CXB5904      |
| 27       | Spring           | CBH2444      | 72       | Gear Unit                | CXB8076      |
| 28       | Spring           | CBL1561      | 73       | Bracket Unit             | CXB7982      |
| 29       | Spring           | CBL1553      | 74       | Motor Unit(M1)           | CXB6007      |
| 30       | Shaft            | CLA3845      | 75       | Arm Unit                 | CXB8504      |
| 31       | Roller           | CLA3910      | 76       | Screw(M2x5)              | EBA1028      |
| 32       | Frame            | CNC9654      | 77       | Screw                    | JFZ20P020FMC |
| 33       | Lever            | CNC9664      | 78       | Screw                    | JGZ17P020FZK |
| 34       | Lever            | CNC8949      | 79       | Washer                   | YE15FUC      |
| 35       | Arm              | CNC9661      | 80       | Washer                   | YE20FUC      |
| 36       | Arm              | CNC9016      | 81       | Pickup Unit(Service)(P9) | CXX1482      |
| 37       | Arm              | CNC9017      | 82       | Screw                    | IMS26P030FMC |
| 38       | Bracket          | CNC9123      | 83       | Guide                    | CNV6922      |
| 39       | Frame            | CNC8947      | 84       | Roller                   | CNV6887      |
| 40       | Belt             | CNT1086      | 85       | Spring                   | CBH2509      |
| 41       | Gear             | CNV6886      | 86       | Spring                   | CBH2512      |
| 42       | Gear             | CNV6316      | 87       | Spring                   | CBH2536      |
| 43       | Gear             | CNV6317      | 88       | Collar                   | CNV6906      |
| 44       | Gear             | CNV6318      |          |                          |              |
| 45       | Gear             | CNV6319      |          |                          |              |

## 2.4 CASSETTE MECHANISM MODULE



For grease application, refer to the service manual for CX-1011 (CRT2406).



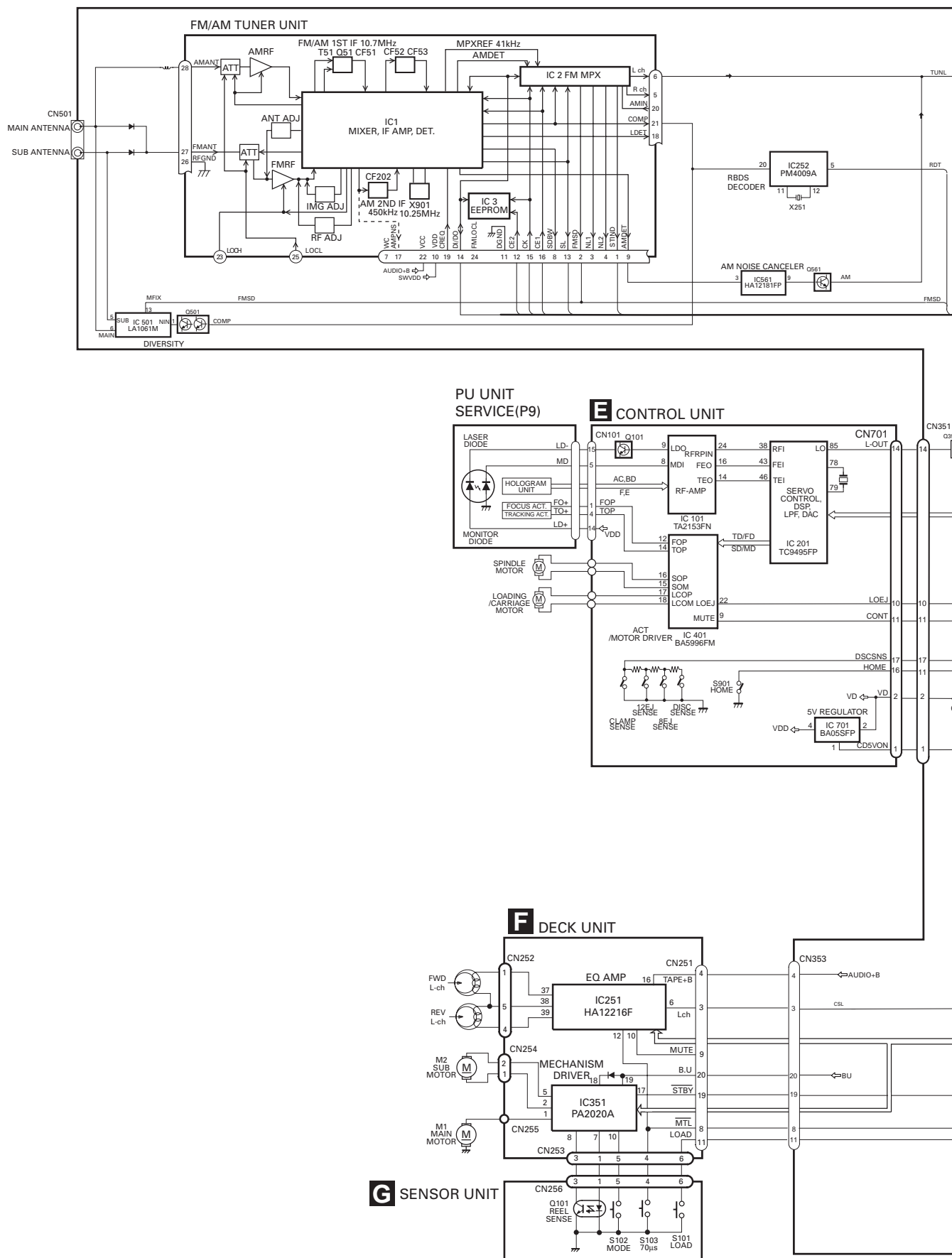


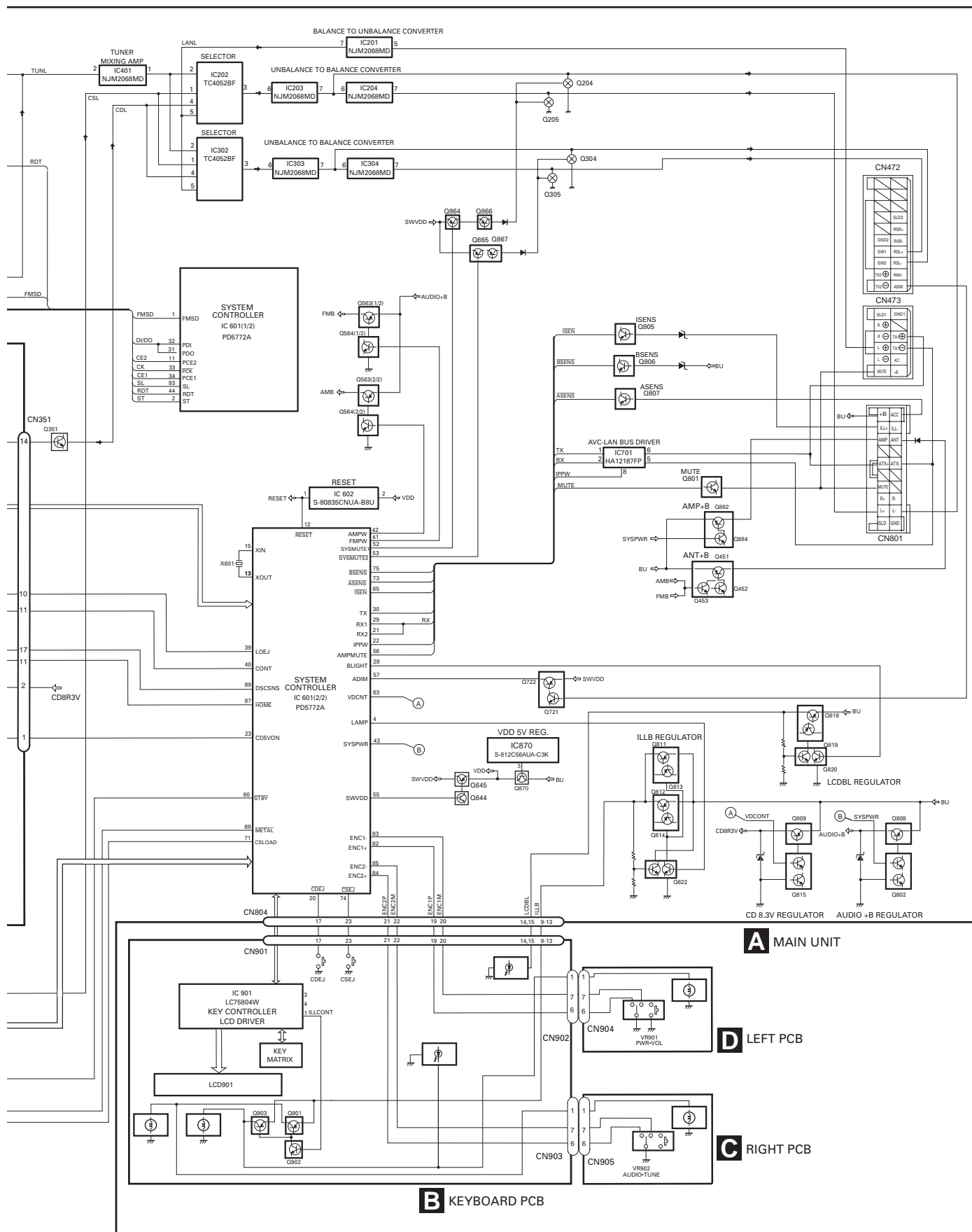
# ● CASSETTE MECHANISM MODULE SECTION PARTS LIST

| Mark No. | Description            | Part No.     | Mark No. | Description       | Part No. |  |
|----------|------------------------|--------------|----------|-------------------|----------|--|
| 1        | Screw                  | BSZ20P040FMC | 46       | Pinch Roller      | ENV1518  |  |
| 2        | Washer                 | CBF1037      | 47       | Pinch Holder Unit | EXA1607  |  |
| 3        | Washer                 | CBG1003      | 48       | Pinch Roller      | ENV1518  |  |
| 4        | Screw                  | EBA1028      | 49       | Reel Unit         | EXA1625  |  |
| 5        | Screw                  | CBA1037      | 50       | Head Base Unit    | EXA1611  |  |
| 6        | Spring                 | EBH1653      | 51       | Lever Unit        | EXA1587  |  |
| 7        | Spring                 | EBH1642      | 52       | Gear Unit         | EXA1596  |  |
| 8        | Spring                 | EBH1641      | 53       | Motor Unit(M2)    | EXA1623  |  |
| 9        | Spring                 | EBH1626      | 54       | Washer            | HBF-179  |  |
| 10       | Spring                 | EBH1627      | 55       | Spring            | EBH1537  |  |
| 11       | Spring                 | EBH1648      | 56       | Worm Gear         | ENV1564  |  |
| 12       | Cord                   | EDD1024      | 57       | Spring            | EBH1655  |  |
| 13       | Photo-reflector(Q101)  | EGN1004      | 58       | Lever             | ENC1548  |  |
| 14       | Arm                    | ENC1526      | 59       | Washer            | YE15FUC  |  |
| 15       | Lever Unit             | EXA1610      | 60       | Tube              | ENM1039  |  |
| 16       | Lever                  | ENC1543      | 61       | Spring            | EBH1645  |  |
| 17       | Arm                    | ENC1532      | 62       | Spring            | EBH1545  |  |
| 18       | Frame                  | ENC1533      | 63       | Sensor Unit       | EWM1041  |  |
| 19       | Holder                 | ENC1547      |          |                   |          |  |
| 20       | Gear                   | ENC1535      |          |                   |          |  |
| 21       | Arm                    | ENC1550      |          |                   |          |  |
| 22       | Roller                 | ENR1040      |          |                   |          |  |
| 23       | Belt                   | ENT1027      |          |                   |          |  |
| 24       | Collar                 | ENV1508      |          |                   |          |  |
| 25       | Arm                    | ENV1539      |          |                   |          |  |
| 26       | Arm                    | ENV1540      |          |                   |          |  |
| 27       | Gear                   | ENV1569      |          |                   |          |  |
| 28       | Gear                   | ENV1547      |          |                   |          |  |
| 29       | Gear                   | ENR1044      |          |                   |          |  |
| 30       | Worm Wheel             | ENV1559      |          |                   |          |  |
| 31       | Lever                  | ENV1551      |          |                   |          |  |
| 32       | Flywheel               | ENV1554      |          |                   |          |  |
| 33       | Gathering PCB          | ENX1073      |          |                   |          |  |
| 34       | Switch(S101,S102,S103) | ESG1007      |          |                   |          |  |
| 35       | Deck Unit              | EWM1043      |          |                   |          |  |
| 36       | Plug(CN251)            | CKS3540      |          |                   |          |  |
| 37       | Gathering PCB          | ENX1076      |          |                   |          |  |
| 38       | Motor Unit(M1)         | EXA1618      |          |                   |          |  |
| 39       | Motor                  | EXM1035      |          |                   |          |  |
| 40       | Head Assy(HD1)         | EXA1594      |          |                   |          |  |
| 41       | Arm                    | ENC1537      |          |                   |          |  |
| 42       | Screw                  | JGZ20P025FNI |          |                   |          |  |
| 43       | Bracket                | ENC1559      |          |                   |          |  |
| 44       | Chassis Unit           | EXA1636      |          |                   |          |  |
| 45       | Pinch Holder Unit      | EXA1608      |          |                   |          |  |

# 3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

## 3.1 BLOCK DIAGRAM





A

B

C

D

E

F





A-b

A

B

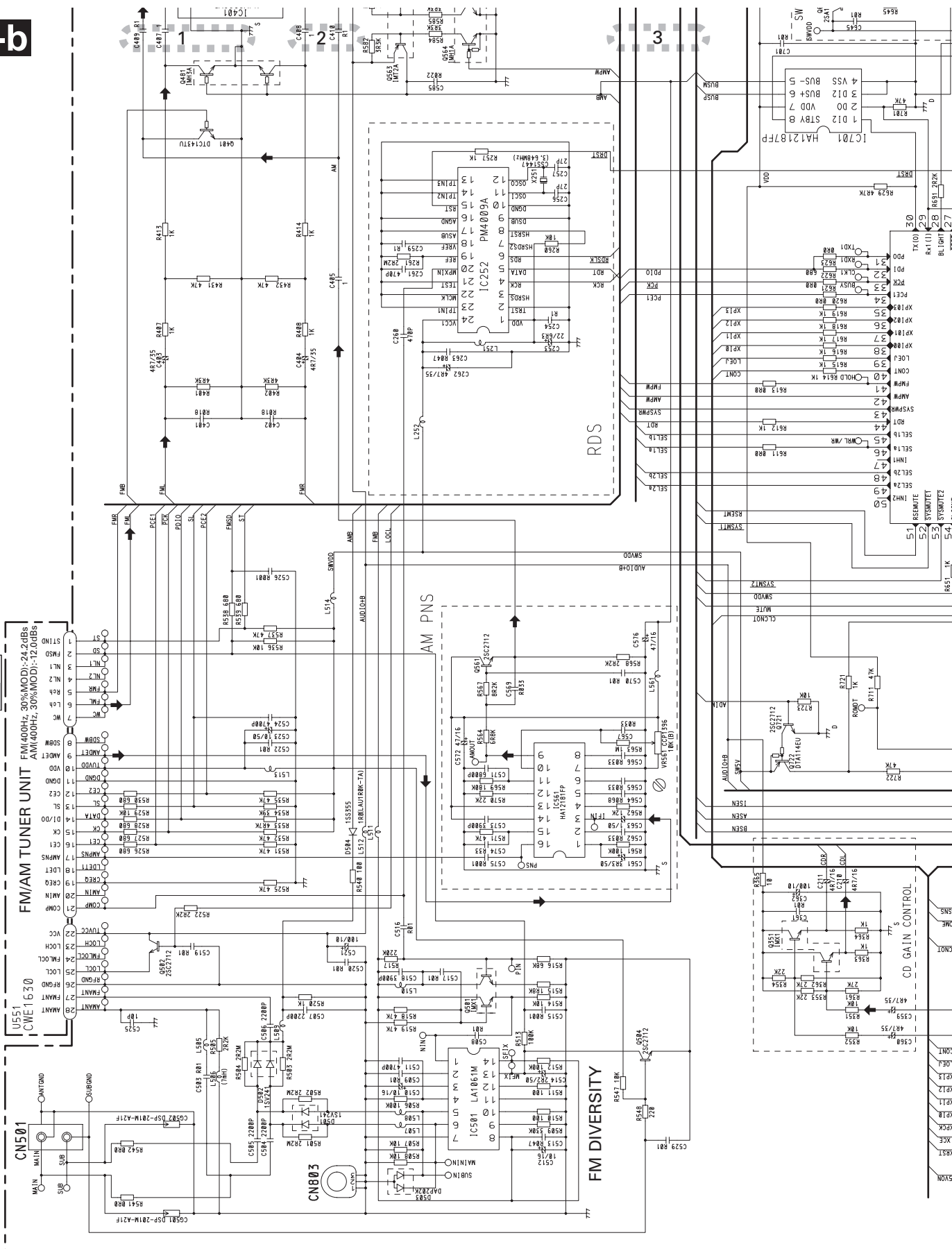
C

D

E

F

A-a A-b



A-a



# MAIN UNIT

A

A-a

A-b

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No differentiation is made between chip capacitors and discrete capacitors.

$$0.022 \rightarrow R022$$

The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

### 3.3 KEYBOARD UNIT

A

### B KEYBOARD PCB

B

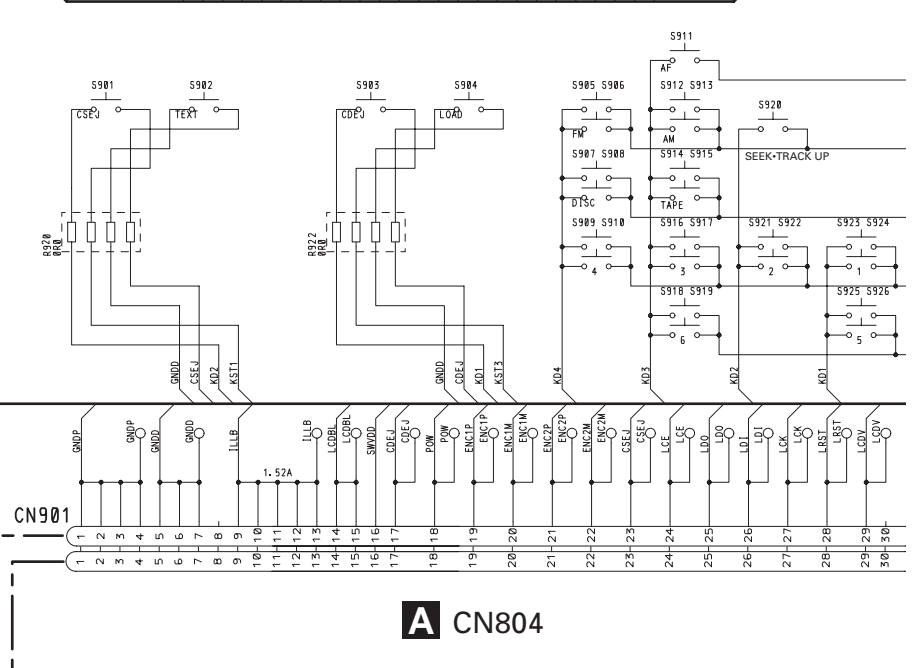
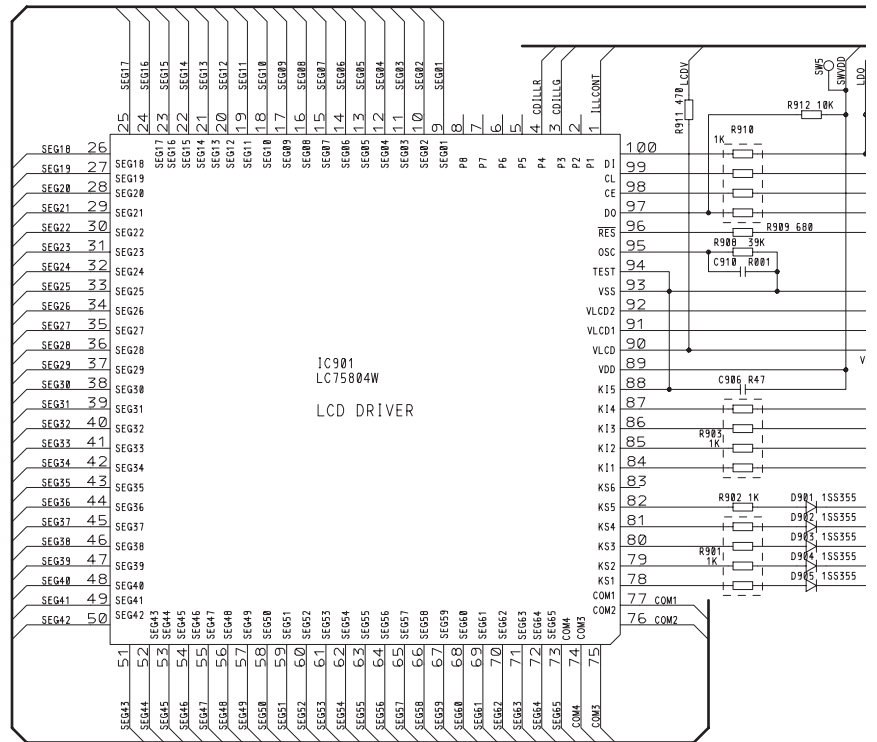
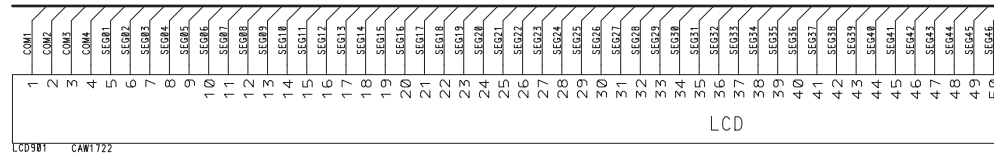
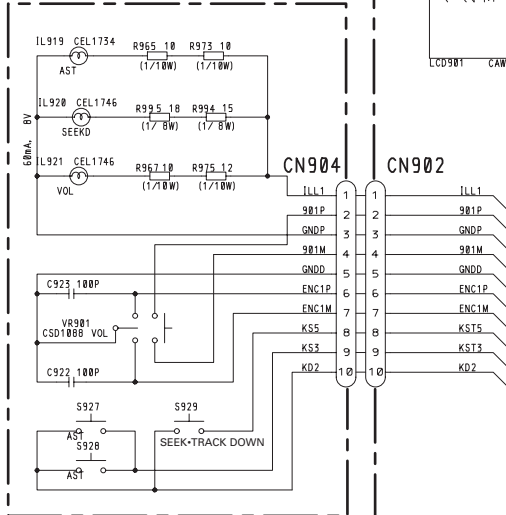
C

D

E

F

### D LEFT PCB



### B D

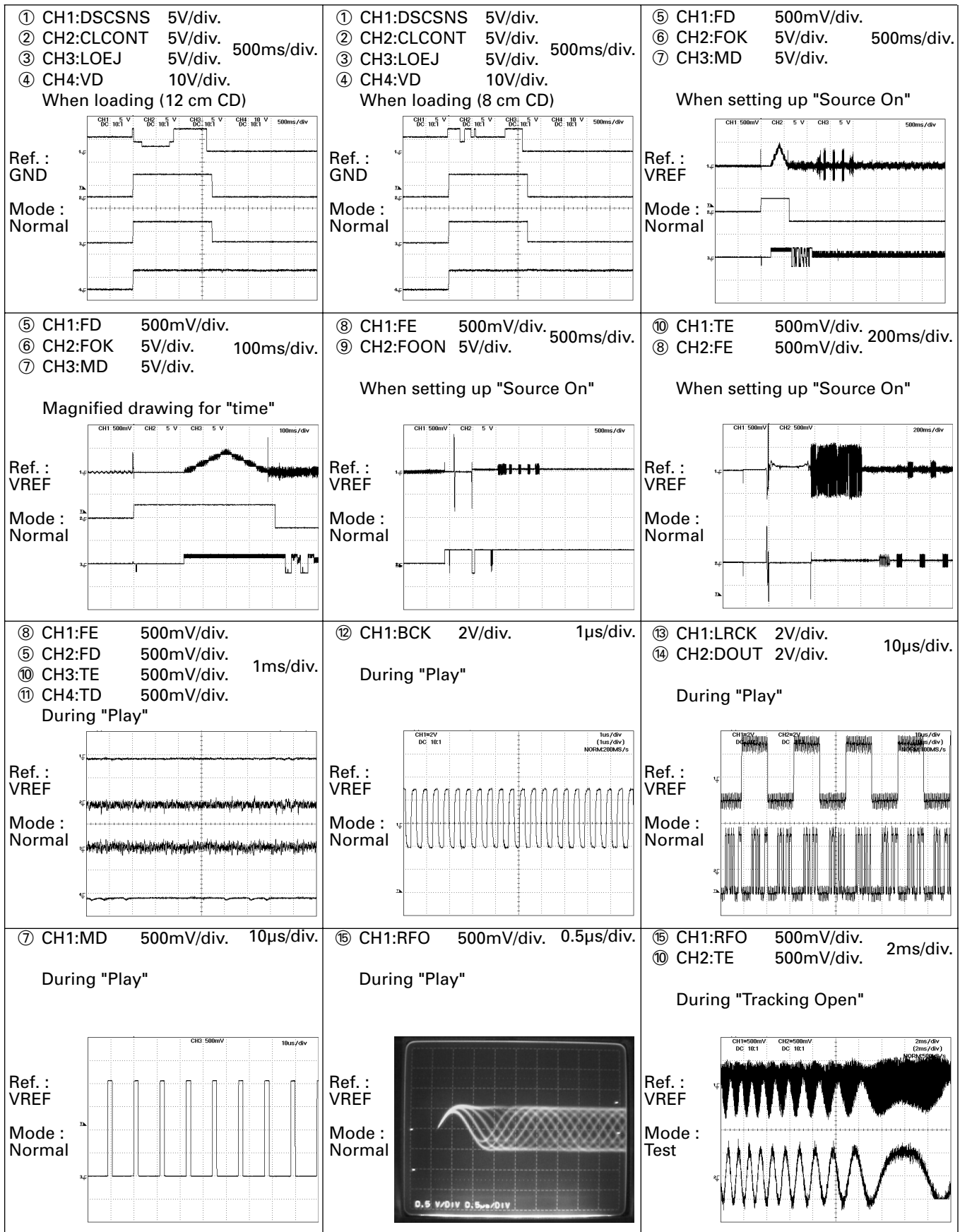


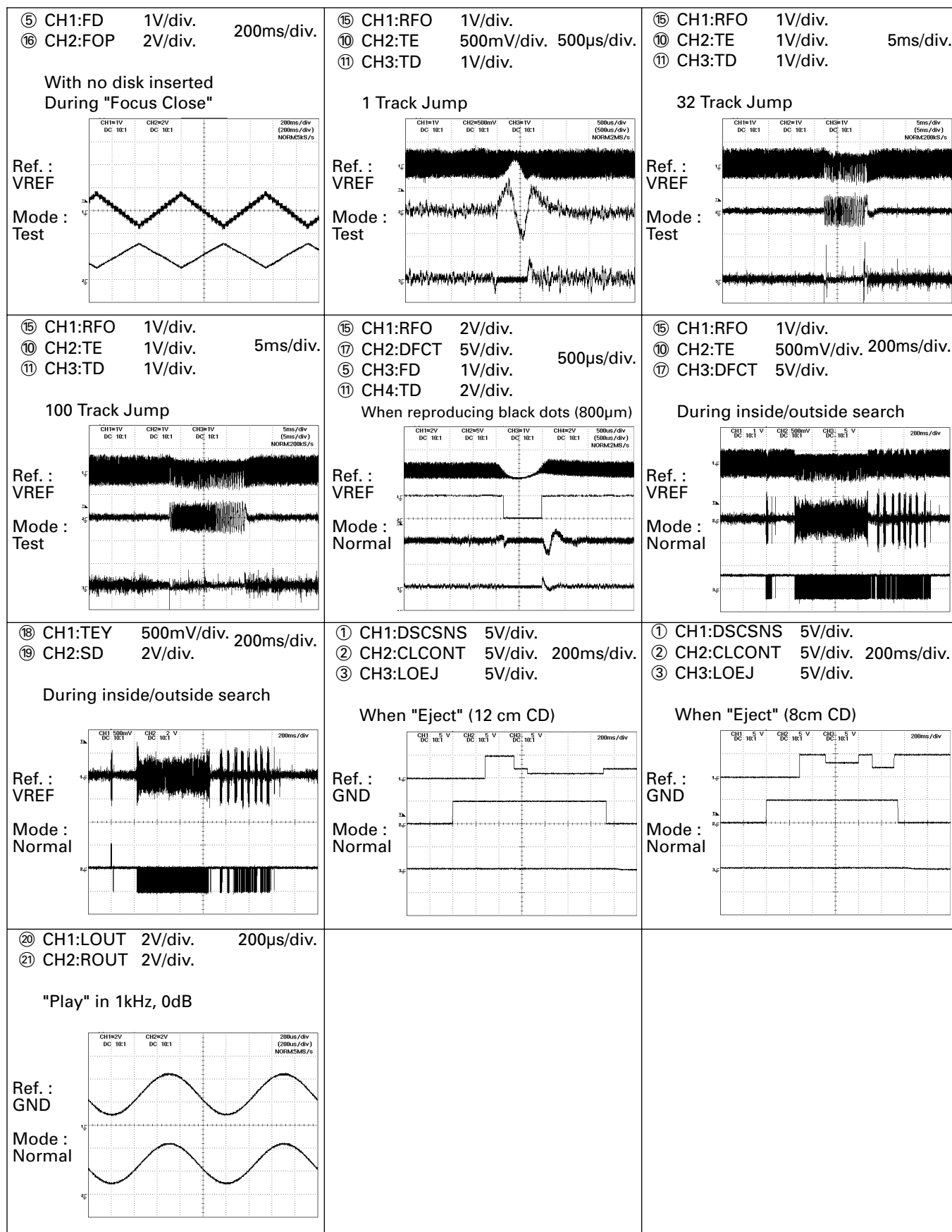
## F



Note:1. The encircled numbers denote measuring points in the circuit diagram.  
2. Reference voltage  
VREF:2.1V

## ● Waveforms





### 3.5 CASSETTE MECHANISM MODULE

A

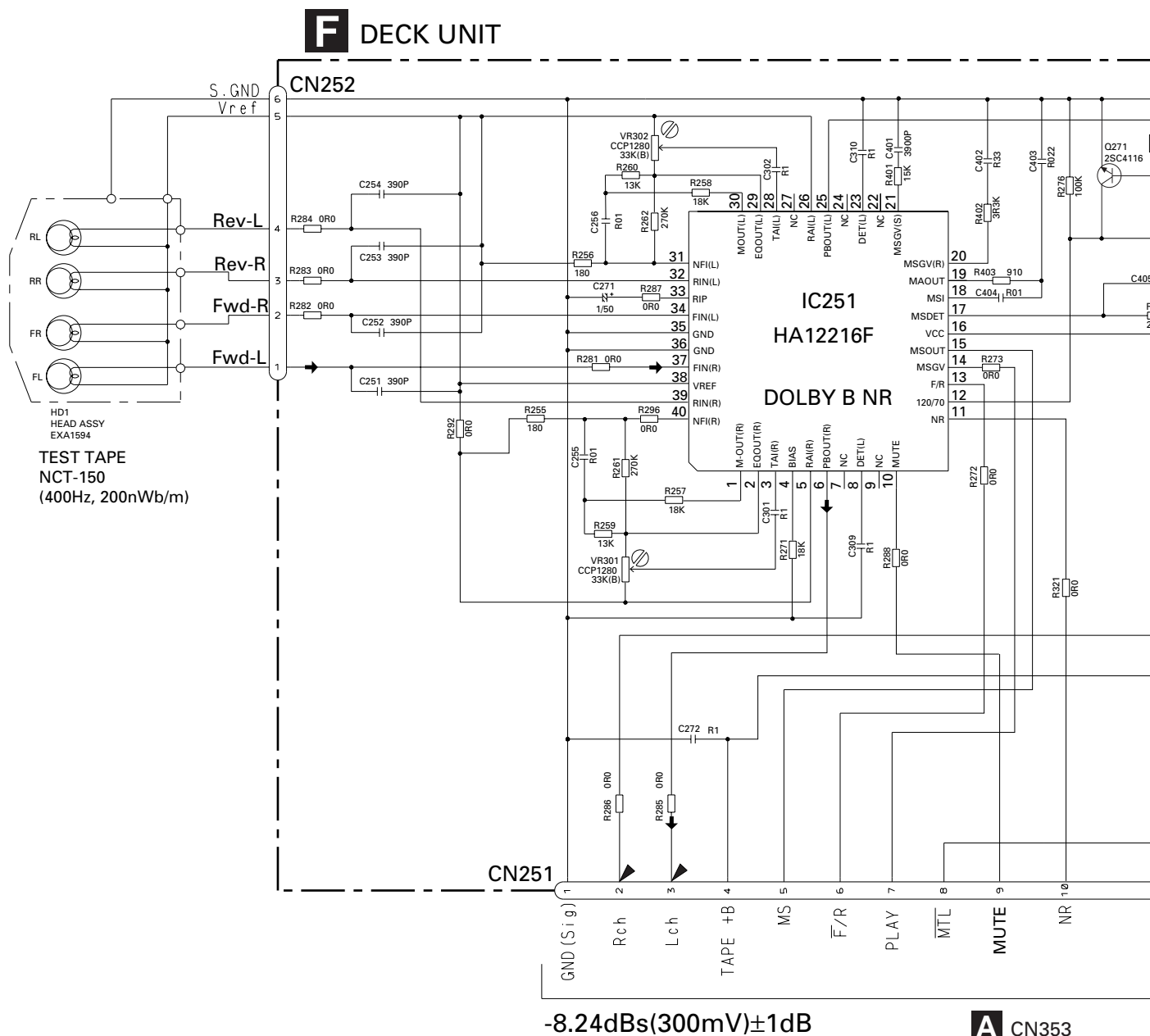
B

C

D

E

F



-8.24dBs(300mV) $\pm$ 1dB

**A** CN353





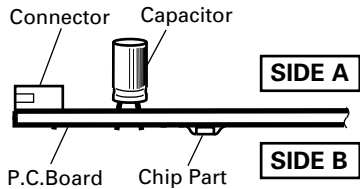
## 4. PCB CONNECTION DIAGRAM

### 4.1 MAIN UNIT

#### NOTE FOR PCB DIAGRAMS

1.The parts mounted on this PCB include all necessary parts for several destination.  
For further information for respective destinations, be sure to check with the schematic diagram.

2.Viewpoint of PCB diagrams

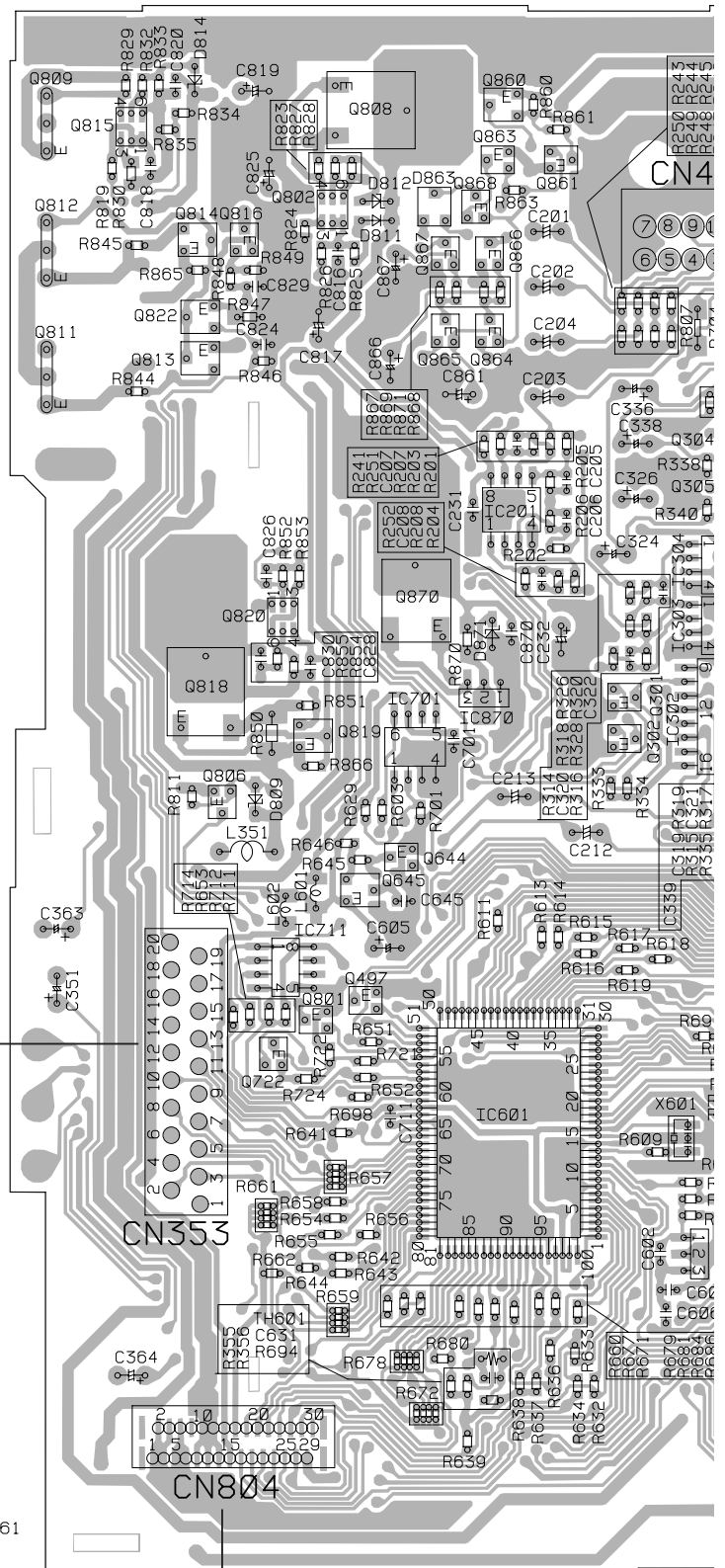


#### A MAIN UNIT

| IC, Q            | ADJ |
|------------------|-----|
| Q809 Q860        |     |
| Q808             |     |
| Q815             |     |
| Q863             |     |
| Q802 Q868 Q861   |     |
| Q812 Q814 Q816   |     |
| Q866             |     |
| Q867             |     |
| Q811 Q822        |     |
| Q813 Q865 Q864   |     |
| Q304 Q807 Q805   |     |
| Q305             |     |
| IC201 Q204       |     |
| Q205             |     |
| Q870 IC304       |     |
| Q820             |     |
| IC303 IC204 Q884 |     |
| Q818             |     |
| IC701 Q301       |     |
| Q819 IC870 IC203 |     |
| IC302 Q303 Q882  |     |
| Q302 Q806 Q201   |     |
| Q451 IC501       |     |
| Q202 IC202 Q203  |     |
| Q563             |     |
| Q644             |     |
| Q645 Q452        |     |
| IC711 Q825 Q453  |     |
| IC401 Q564       |     |
| Q497 Q501        |     |
| Q801             |     |

F CN251

|            |       |
|------------|-------|
| Q722       |       |
| IC601 Q481 |       |
| IC252      |       |
| IC602      |       |
| IC561      |       |
| Q351       | VR561 |



A



A

# **A** MAIN UNIT

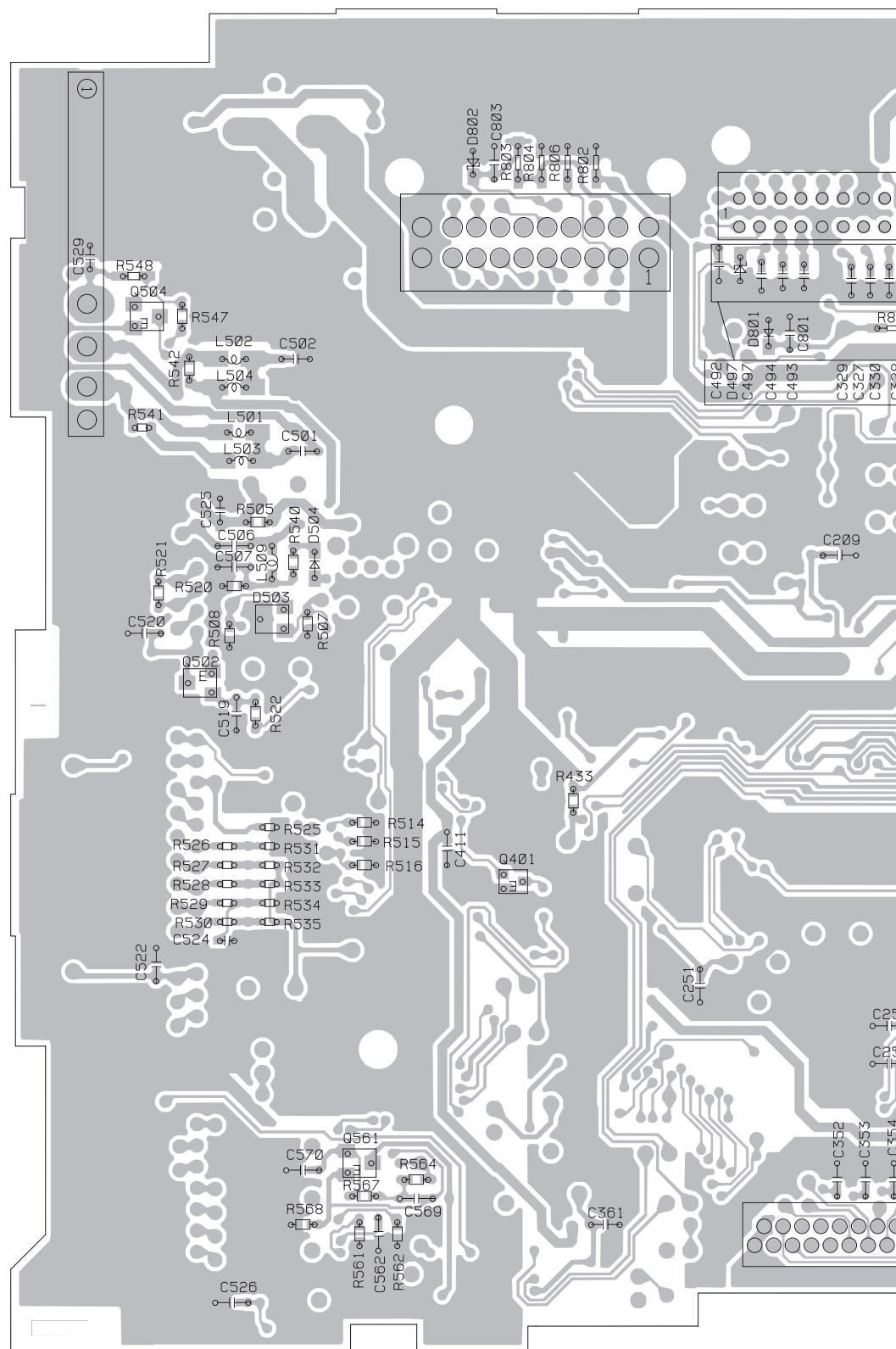
B

C

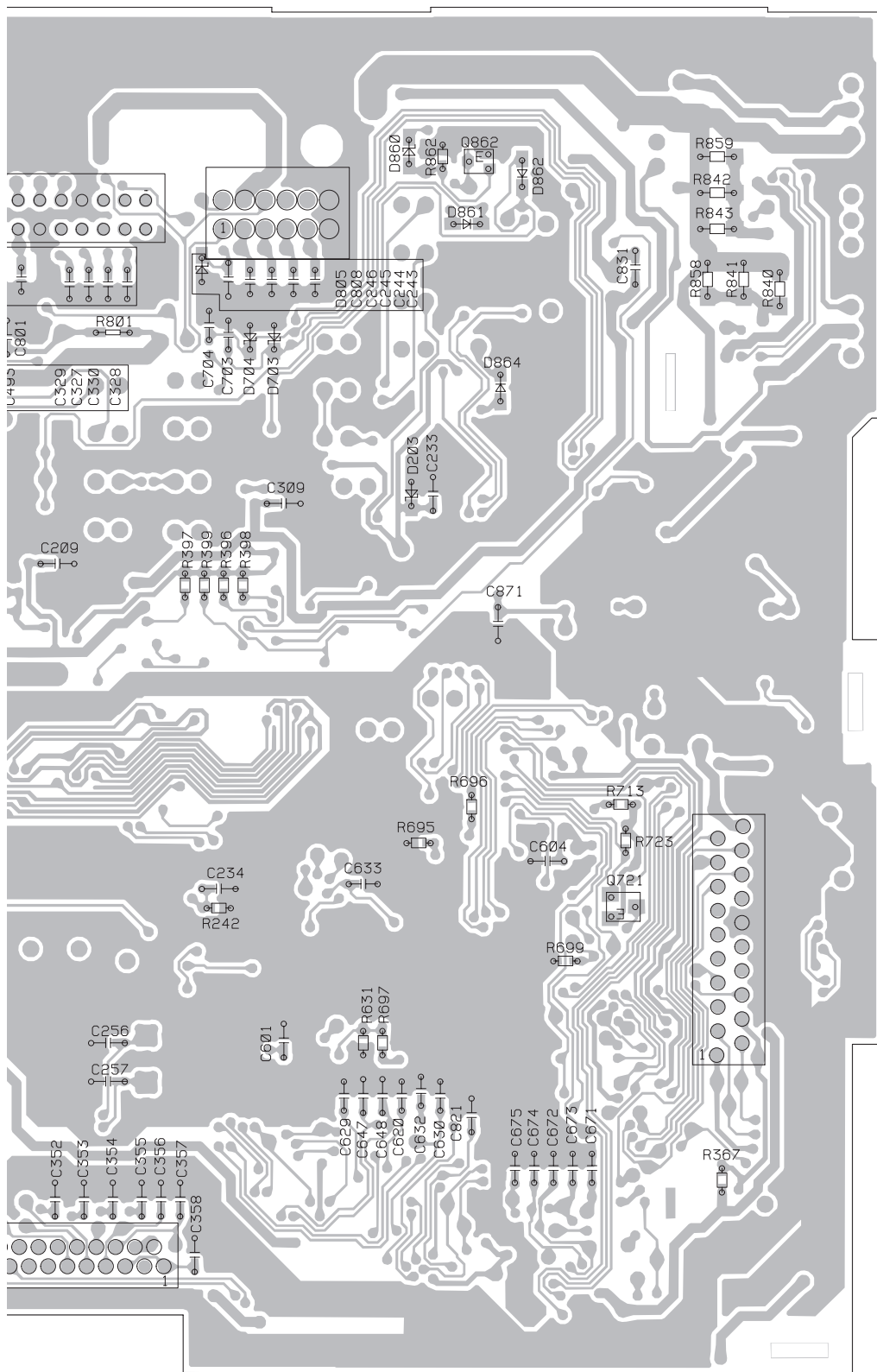
D

E

F



SIDE B



IC, Q

Q862

Q504

Q502

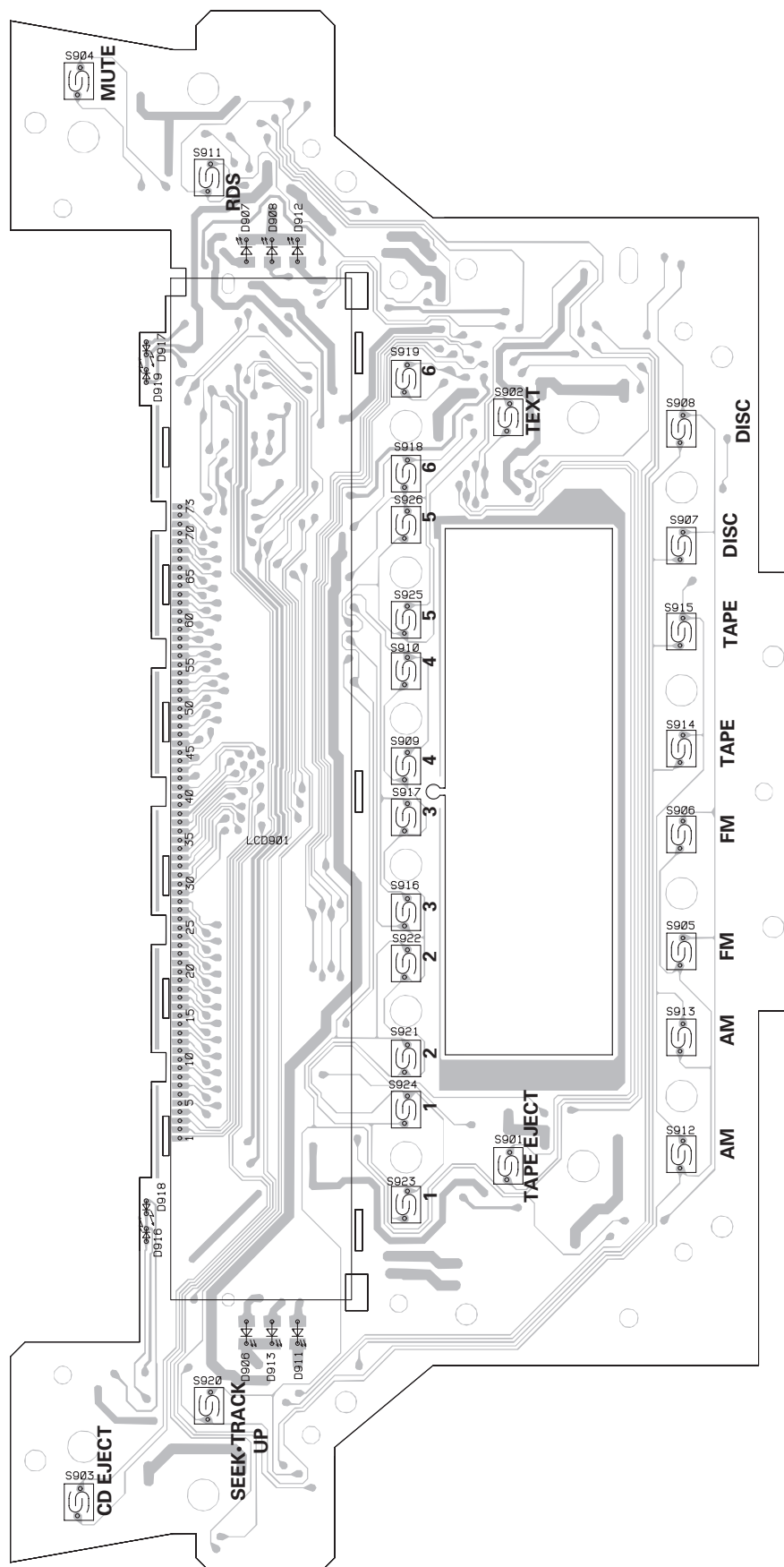
Q401  
Q721

Q561

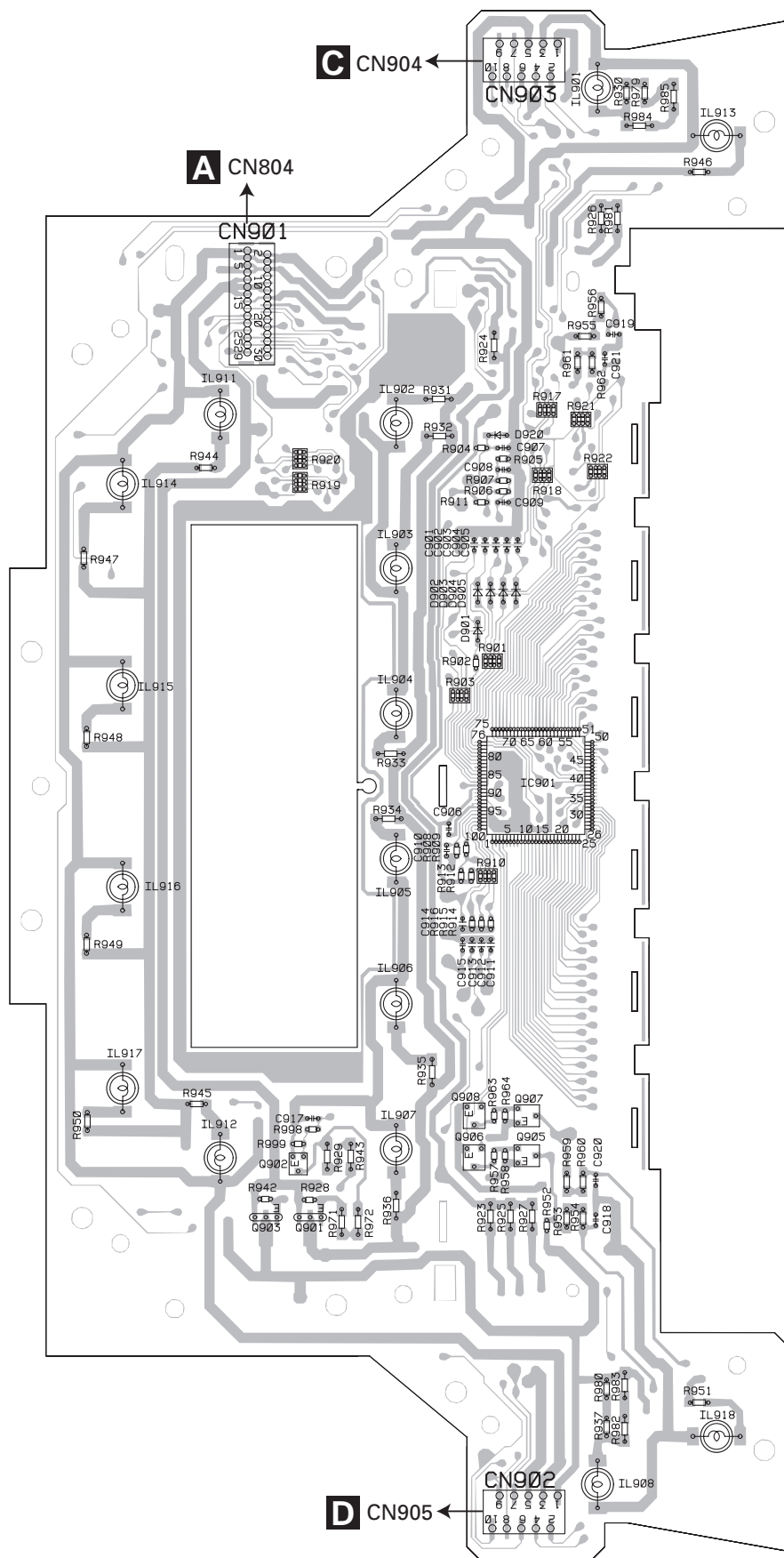
## 4.2 KEYBOARD UNIT

### B KEYBOARD PCB

SIDE A







IC. Q

IC901

Q908 Q907

Q906 Q905

Q902

Q903 Q901

**D** CN905

**C** CN904

**A** CN804

CN901

CN902

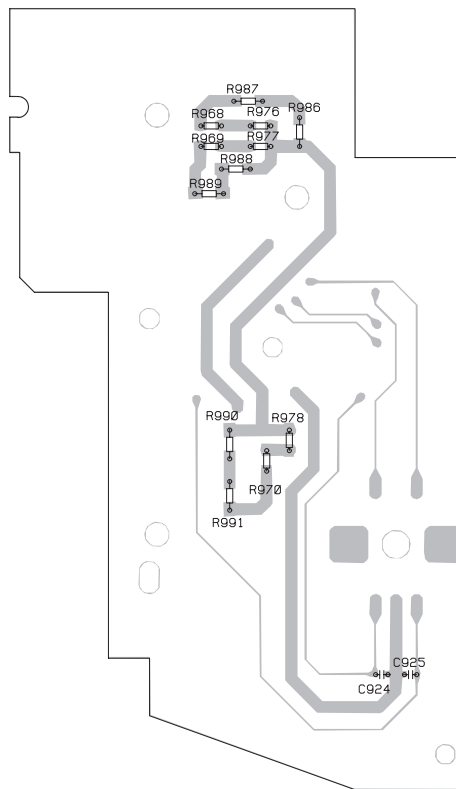
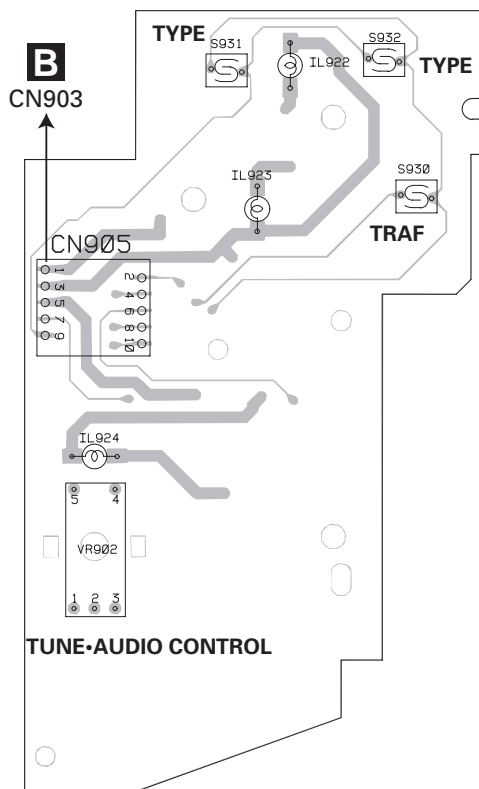
CN903

**C** RIGHT PCB

SIDE A

**C** RIGHTT PCB

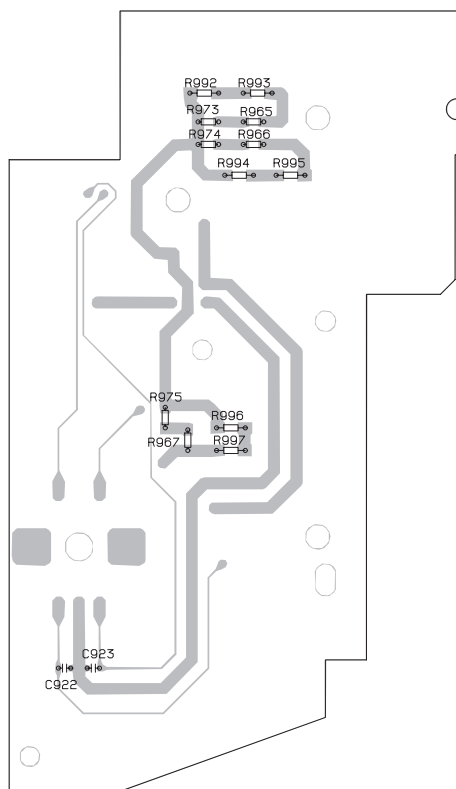
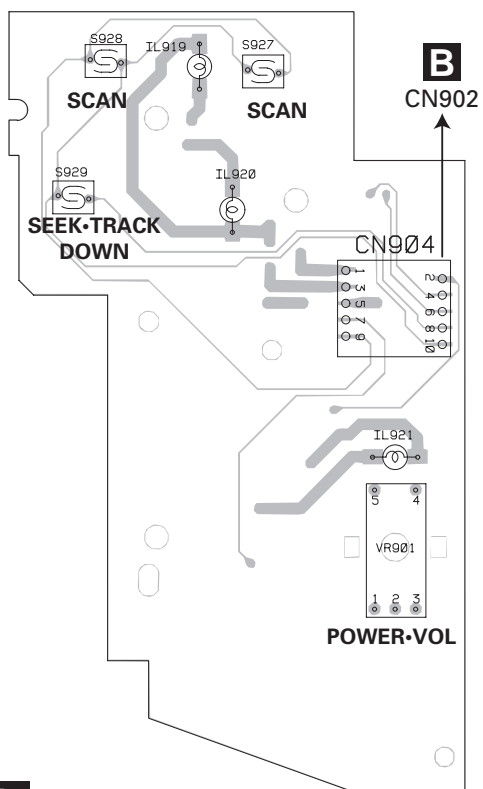
SIDE B

**D** LEFT PCB

SIDE A

**D** LEFT PCB

SIDE B







5



6



7



8



A



B



C



D



E



F



5



6

FX-M8427ZT/UC



7



8

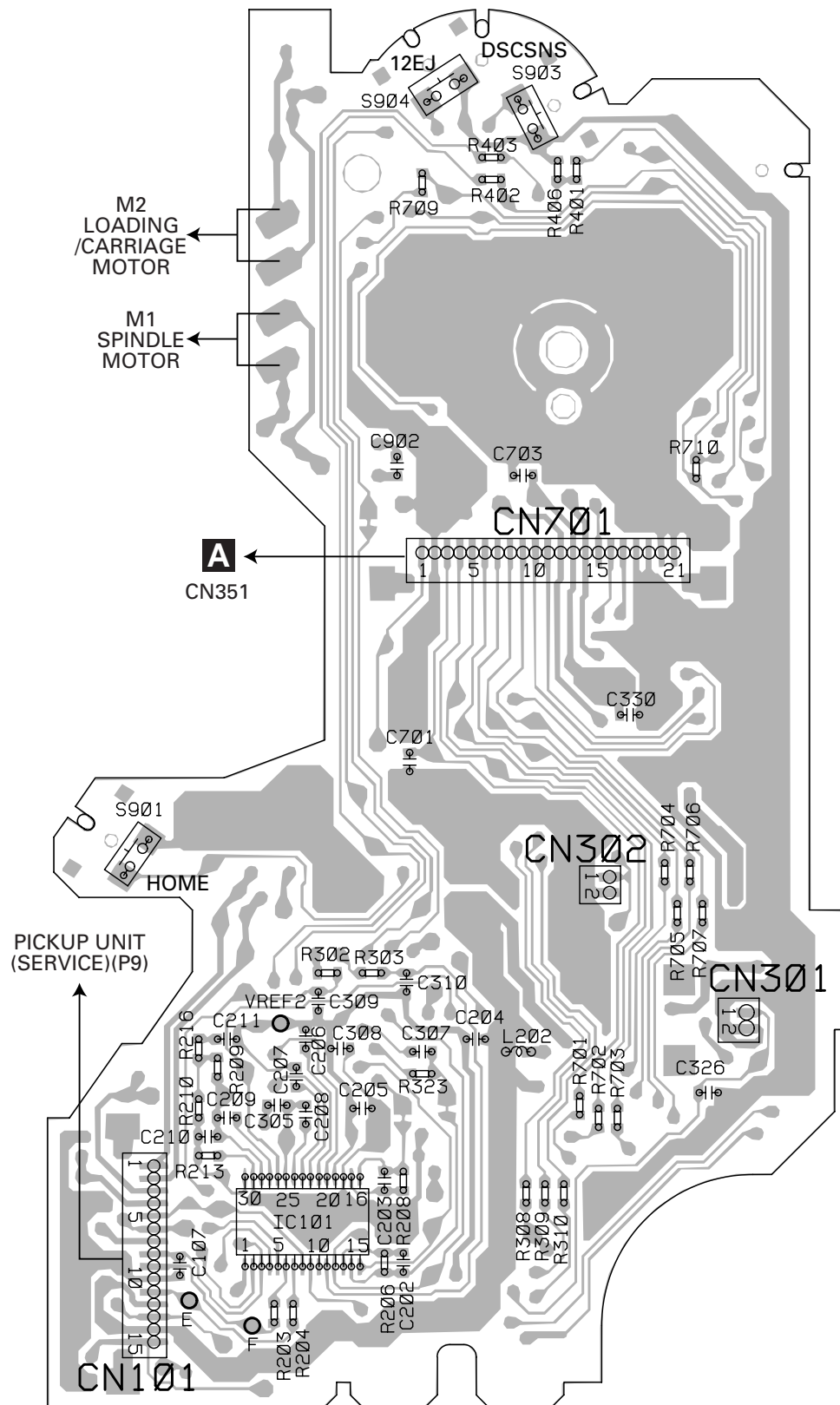


## 4.3 CD MECHANISM MODULE

**E** CONTROL UNIT

**SIDE A**

IC, Q

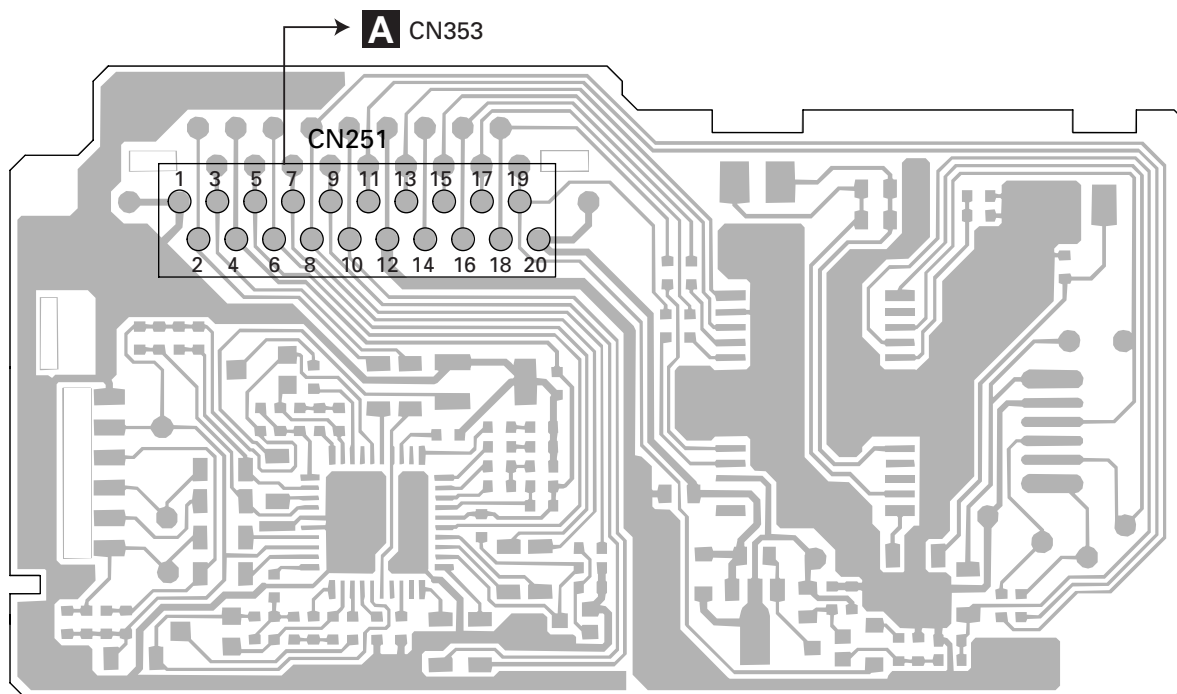




#### 4.4 CASSETTE MECHANISM MODULE

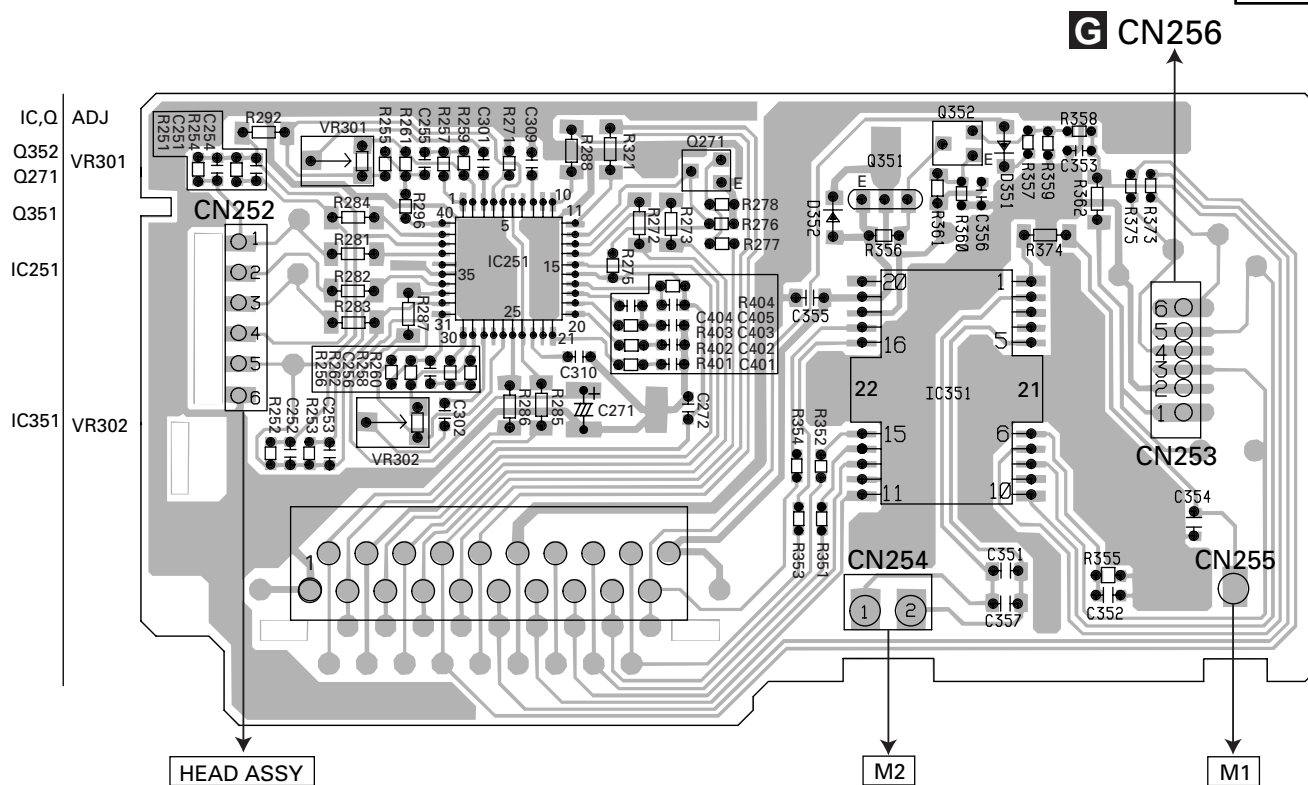
**F** DECK UNIT

## SIDE A

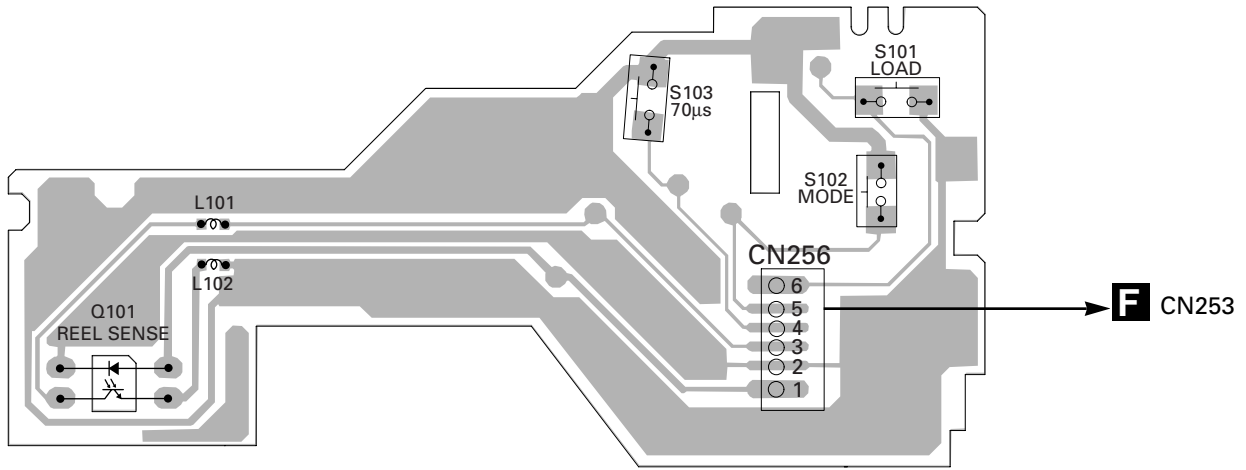


**F** DECK UNIT

## SIDE B



**G** SENSOR UNIT



## 5. ELECTRICAL PARTS LIST

### NOTES:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/OSOOOJ,RS1/OOSOOOJ

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

| ====Circuit Symbol and No.====Part Name                 | Part No.        | ====Circuit Symbol and No.====Part Name | Part No.       |
|---------------------------------------------------------|-----------------|-----------------------------------------|----------------|
| <b>A</b> Unit Number : CWM8384<br>Unit Name : Main Unit |                 | Q 811 Transistor                        | 2SB1185        |
| MISCELLANEOUS                                           |                 | Q 812 Transistor                        | 2SB1185        |
| IC 201 IC                                               | NJM2068MD       | Q 813 Transistor                        | 2SA1162        |
| IC 202 IC                                               | TC4052BF        | Q 814 Transistor                        | 2SA1162        |
| IC 203 IC                                               | NJM2068MD       | Q 815 Transistor                        | IMX1           |
| IC 204 IC                                               | NJM2068MD       | Q 816 Transistor                        | 2SC4081        |
| IC 252 IC                                               | PM4009A         | Q 818 Transistor                        | 2SB1184F5      |
| IC 302 IC                                               | TC4052BF        | Q 819 Transistor                        | 2SA1162        |
| IC 303 IC                                               | NJM2068MD       | Q 820 Transistor                        | IMX1           |
| IC 304 IC                                               | NJM2068MD       | Q 822 Transistor                        | 2SD2226K       |
| IC 401 IC                                               | NJM2068MD       | Q 825 Transistor                        | 2SA1162        |
| IC 501 IC                                               | LA1061M         | Q 860 Transistor                        | 2SA1162        |
| IC 561 IC                                               | HA12181FP       | Q 861 Transistor                        | DTC143EU       |
| IC 601 IC                                               | PD5772A         | Q 862 Transistor                        | DTC144TUA      |
| IC 602 IC                                               | S-80835CNUA-B8U | Q 863 Transistor                        | DTC114EU       |
| IC 701 IC                                               | HA12187FP       | Q 864 Transistor                        | DTA114EU       |
| IC 870 IC                                               | S-812C56AUA-C3K | Q 865 Transistor                        | DTA114EU       |
| Q 201 Transistor                                        | DTC144EU        | Q 866 Transistor                        | DTA114EU       |
| Q 202 Transistor                                        | DTC144EU        | Q 867 Transistor                        | DTA114EU       |
| Q 203 Transistor                                        | DTC144EU        | Q 868 Transistor                        | DTA114EU       |
| Q 204 Transistor                                        | FMG13           | Q 870 Transistor                        | 2SD1760F5      |
| Q 205 Transistor                                        | FMG13           | Q 882 Transistor                        | 2SA1162        |
| Q 301 Transistor                                        | DTC144EU        | Q 884 Transistor                        | DTC124EU       |
| Q 302 Transistor                                        | DTC144EU        | D 203 Diode                             | HZU4R7(B2)     |
| Q 303 Transistor                                        | DTC144EU        | D 451 Diode                             | DAN202K        |
| Q 304 Transistor                                        | FMG13           | D 452 Diode                             | 1SS355         |
| Q 305 Transistor                                        | FMG13           | D 472 Diode                             | MPG06G-6415G50 |
| Q 351 Transistor                                        | IMX1            | D 473 Diode                             | MPG06G-6415G50 |
| Q 401 Transistor                                        | DTC143TU        | D 474 Diode                             | 1SS355         |
| Q 451 Transistor                                        | 2SB1260         | D 475 Diode                             | 1SS355         |
| Q 452 Transistor                                        | 2SC2712         | D 497 Diode                             | UDZS20(B)      |
| Q 453 Transistor                                        | 2SC2712         | D 501 Diode                             | 1SV241         |
| Q 481 Transistor                                        | IMH3A           | D 502 Diode                             | 1SV241         |
| Q 497 Transistor                                        | DTC114EU        | D 503 Diode                             | DAP202K        |
| Q 501 Transistor                                        | IMX1            | D 504 Diode                             | 1SS355         |
| Q 502 Transistor                                        | 2SC2712         | D 703 Diode                             | UDZS18(B)      |
| Q 504 Transistor                                        | 2SC2712         | D 704 Diode                             | UDZS18(B)      |
| Q 561 Transistor                                        | 2SC2712         | D 801 Diode                             | 1SS355         |
| Q 563 Transistor                                        | IMT2A           | D 802 Diode                             | UDZS5R6(B)     |
| Q 564 Transistor                                        | IMH1A           | D 803 Diode                             | RM4LFJ10       |
| Q 644 Transistor                                        | DTC144EU        | D 804 Diode                             | 1SS355         |
| Q 645 Transistor                                        | 2SA1162         | D 805 Diode                             | UDZS20(B)      |
| Q 721 Transistor                                        | 2SC2712         | D 808 Diode                             | HZU8R2(B2)     |
| Q 722 Transistor                                        | DTA114EU        | D 809 Diode                             | HZU7R5(B3)     |
| Q 801 Transistor                                        | DTC114EU        | D 810 Diode                             | HZU8R2(B2)     |
| Q 802 Transistor                                        | IMX1            | D 811 Diode                             | 1SS355         |
| Q 805 Transistor                                        | DTC144TUA       | D 812 Diode                             | HZU7R5(B3)     |
| Q 806 Transistor                                        | DTC144TUA       | D 814 Diode                             | HZU7R5(B3)     |
| Q 807 Transistor                                        | DTC144TUA       | D 860 Diode                             | HZU8R2(B3)     |
| Q 808 Transistor                                        | 2SB1184F5       | D 861 Diode                             | 1SS355         |
| Q 809 Transistor                                        | 2SB1185         | D 862 Diode                             | 1SS355         |
|                                                         |                 | D 863 Diode                             | DAP202K        |

| ====Circuit Symbol and No.===Part Name |     |                            | Part No.       | ====Circuit Symbol and No.===Part Name |     |  | Part No.    | A |
|----------------------------------------|-----|----------------------------|----------------|----------------------------------------|-----|--|-------------|---|
|                                        |     |                            |                |                                        |     |  |             |   |
| D                                      | 864 | Diode                      | 1SS355         |                                        |     |  |             |   |
| D                                      | 870 | Diode                      | MPG06G-6415G50 | R                                      | 241 |  | RS1/16S222J |   |
| D                                      | 871 | Diode                      | UDZS16(B)      | R                                      | 243 |  | RS1/16S103J |   |
| D                                      | 882 | Diode                      | 1SS355         | R                                      | 244 |  | RS1/16S103J |   |
|                                        |     |                            |                | R                                      | 245 |  | RS1/16S103J |   |
|                                        |     |                            |                | R                                      | 246 |  | RS1/16S103J |   |
| L                                      | 251 | Ferri-Inductor             | LAU101K        |                                        |     |  |             |   |
| L                                      | 252 | Ferri-Inductor             | LAU100K        |                                        |     |  |             |   |
| L                                      | 351 | Inductor                   | LFEA4R7J       | R                                      | 247 |  | RS1/16S562J |   |
| L                                      | 505 | Ferri-Inductor             | LAU4R7K        | R                                      | 248 |  | RS1/16S562J |   |
| L                                      | 506 | Coil                       | CTB1112        | R                                      | 249 |  | RS1/16S562J |   |
|                                        |     |                            |                | R                                      | 250 |  | RS1/16S562J |   |
|                                        |     |                            |                | R                                      | 251 |  | RS1/16S101J |   |
| L                                      | 507 | Inductor                   | LCTC6R8K3216   |                                        |     |  |             |   |
| L                                      | 508 | Inductor                   | LCTC6R8K3216   |                                        |     |  |             |   |
| L                                      | 509 | Inductor                   | LCTC6R8K3216   | R                                      | 252 |  | RS1/16S101J |   |
| L                                      | 510 | Inductor                   | LCTA561J4532   | R                                      | 257 |  | RS1/16S102J |   |
| L                                      | 511 | Ferri-Inductor             | LAU4R7K        | R                                      | 260 |  | RS1/16S103J |   |
|                                        |     |                            |                | R                                      | 261 |  | RS1/16S225J |   |
|                                        |     |                            |                | R                                      | 313 |  | RS1/16S103J |   |
| L                                      | 512 | Inductor                   | LAU1R0K        |                                        |     |  |             |   |
| L                                      | 513 | Inductor                   | LAU1R0K        |                                        |     |  |             |   |
| L                                      | 514 | Inductor                   | LAU1R0K        | R                                      | 314 |  | RS1/16S103J |   |
| L                                      | 561 | Ferri-Inductor             | LAU4R7K        | R                                      | 315 |  | RS1/16S163J |   |
| L                                      | 601 | Inductor                   | LCTA100J3225   | R                                      | 316 |  | RS1/16S163J |   |
|                                        |     |                            |                | R                                      | 317 |  | RS1/16S163J |   |
|                                        |     |                            |                | R                                      | 318 |  | RS1/16S163J |   |
| L                                      | 602 | Inductor                   | LCYA150J2520   |                                        |     |  |             |   |
| L                                      | 801 | Coil 350μH                 | CTH1276        |                                        |     |  |             |   |
| CG                                     | 501 | Surge Protector            | DSP-201M-A21F  | R                                      | 319 |  | RS1/16S163J |   |
| CG                                     | 502 | Surge Protector            | DSP-201M-A21F  | R                                      | 320 |  | RS1/16S163J |   |
| TH                                     | 601 | Thermistor                 | CCX1015        | R                                      | 321 |  | RS1/16S103J |   |
|                                        |     |                            |                | R                                      | 322 |  | RS1/16S103J |   |
|                                        |     |                            |                | R                                      | 323 |  | RS1/16S103J |   |
| X                                      | 251 | Crystal Resonator 3.648MHz | CSS1447        |                                        |     |  |             |   |
| X                                      | 601 | Radiator 10.0MHz           | CSS1577        |                                        |     |  |             |   |
| VR                                     | 561 | Semi-Fixed 10kΩ(B)         | CCP1396        | R                                      | 324 |  | RS1/16S103J |   |
| FU                                     | 471 | Fuse 5A                    | CEK1216        | R                                      | 325 |  | RS1/16S181J |   |
|                                        |     | FM/AM Tuner Unit           | CWE1630        | R                                      | 326 |  | RS1/16S181J |   |
|                                        |     |                            |                | R                                      | 327 |  | RS1/16S181J |   |
| EF                                     | 351 | EMI Filter                 | CCG1163        | R                                      | 328 |  | RS1/16S181J |   |
| RESISTORS                              |     |                            |                | R                                      | 329 |  | RS1/10S470J |   |
|                                        |     |                            |                | R                                      | 330 |  | RS1/10S470J |   |
| R                                      | 201 |                            | RS1/16S223J    | R                                      | 331 |  | RS1/10S470J |   |
| R                                      | 202 |                            | RS1/16S223J    | R                                      | 332 |  | RS1/10S470J |   |
| R                                      | 203 |                            | RS1/16S223J    | R                                      | 333 |  | RS1/16S473J |   |
| R                                      | 204 |                            | RS1/16S223J    |                                        |     |  |             |   |
| R                                      | 205 |                            | RS1/16S223J    | R                                      | 334 |  | RS1/16S473J |   |
|                                        |     |                            |                | R                                      | 335 |  | RS1/16S473J |   |
| R                                      | 206 |                            | RS1/16S223J    | R                                      | 337 |  | RS1/16S473J |   |
| R                                      | 207 |                            | RS1/16S223J    | R                                      | 338 |  | RS1/16S473J |   |
| R                                      | 208 |                            | RS1/16S223J    | R                                      | 339 |  | RS1/16S473J |   |
| R                                      | 213 |                            | RS1/16S103J    |                                        |     |  |             |   |
| R                                      | 214 |                            | RS1/16S103J    | R                                      | 340 |  | RS1/16S473J |   |
|                                        |     |                            |                | R                                      | 351 |  | RS1/16S103J |   |
| R                                      | 215 |                            | RS1/16S163J    | R                                      | 352 |  | RS1/16S103J |   |
| R                                      | 216 |                            | RS1/16S163J    | R                                      | 353 |  | RS1/16S223J |   |
| R                                      | 217 |                            | RS1/16S163J    | R                                      | 354 |  | RS1/16S223J |   |
| R                                      | 218 |                            | RS1/16S163J    |                                        |     |  |             |   |
| R                                      | 219 |                            | RS1/16S163J    | R                                      | 355 |  | RS1/16S104J |   |
|                                        |     |                            |                | R                                      | 356 |  | RS1/16S104J |   |
| R                                      | 220 |                            | RS1/16S163J    | R                                      | 357 |  | RS1/16S0R0J |   |
| R                                      | 221 |                            | RS1/16S103J    | R                                      | 358 |  | RS1/16S0R0J |   |
| R                                      | 222 |                            | RS1/16S103J    | R                                      | 359 |  | RS1/16S0R0J |   |
| R                                      | 223 |                            | RS1/16S103J    |                                        |     |  |             |   |
| R                                      | 224 |                            | RS1/16S103J    | R                                      | 360 |  | RS1/16S0R0J |   |
|                                        |     |                            |                | R                                      | 361 |  | RS1/16S273J |   |
| R                                      | 225 |                            | RS1/16S181J    | R                                      | 362 |  | RS1/16S273J |   |
| R                                      | 226 |                            | RS1/16S181J    | R                                      | 363 |  | RS1/16S102J |   |
| R                                      | 227 |                            | RS1/16S181J    | R                                      | 364 |  | RS1/16S102J |   |
| R                                      | 228 |                            | RS1/16S181J    |                                        |     |  |             |   |
| R                                      | 229 |                            | RS1/10S470J    | R                                      | 365 |  | RS1/16S100J |   |
|                                        |     |                            |                | R                                      | 367 |  | RS1/16S100J |   |
| R                                      | 230 |                            | RS1/10S470J    | R                                      | 396 |  | RS1/16S104J |   |
| R                                      | 231 |                            | RS1/10S470J    | R                                      | 397 |  | RS1/16S104J |   |
| R                                      | 232 |                            | RS1/10S470J    | R                                      | 398 |  | RS1/16S104J |   |
| R                                      | 233 |                            | RS1/16S473J    |                                        |     |  |             |   |
| R                                      | 234 |                            | RS1/16S473J    | R                                      | 399 |  | RS1/16S104J |   |
|                                        |     |                            |                | R                                      | 401 |  | RS1/16S432J |   |
| R                                      | 235 |                            | RS1/16S473J    | R                                      | 402 |  | RS1/16S432J |   |
| R                                      | 237 |                            | RS1/16S473J    | R                                      | 407 |  | RS1/16S102J |   |
| R                                      | 238 |                            | RS1/16S473J    | R                                      | 408 |  | RS1/16S102J |   |
| R                                      | 239 |                            | RS1/16S473J    |                                        |     |  |             |   |
| R                                      | 240 |                            | RS1/16S473J    | R                                      | 413 |  | RS1/16S102J |   |

| A | ====Circuit Symbol and No.==Part Name |     | Part No.    | ====Circuit Symbol and No.==Part Name |     | Part No.    |
|---|---------------------------------------|-----|-------------|---------------------------------------|-----|-------------|
|   |                                       |     |             |                                       |     |             |
|   | R                                     | 414 | RS1/16S102J | R                                     | 567 | RS1/16S822J |
|   | R                                     | 415 | RS1/16S203J | R                                     | 568 | RS1/16S222J |
|   | R                                     | 416 | RS1/16S203J |                                       |     |             |
|   | R                                     | 417 | RS1/16S623J | R                                     | 569 | RS1/16S184J |
|   |                                       |     |             | R                                     | 570 | RS1/16S223J |
|   | R                                     | 418 | RS1/16S623J | R                                     | 571 | RS1/16S473J |
|   | R                                     | 429 | RS1/16S683J | R                                     | 582 | RS1/16S332J |
|   | R                                     | 430 | RS1/16S683J | R                                     | 583 | RS1/16S332J |
|   | R                                     | 431 | RS1/16S473J |                                       |     |             |
|   | R                                     | 432 | RS1/16S473J | R                                     | 584 | RS1/16S332J |
| B |                                       |     |             | R                                     | 585 | RS1/16S332J |
|   | R                                     | 433 | RS1/16S101J | R                                     | 601 | RS1/16S102J |
|   | R                                     | 451 | RS1/16S102J | R                                     | 602 | RS1/16S473J |
|   | R                                     | 452 | RS1/16S223J | R                                     | 603 | RS1/16S102J |
|   | R                                     | 453 | RS1/16S823J |                                       |     |             |
|   | R                                     | 454 | RS1/16S181J | R                                     | 604 | RS1/16S102J |
|   |                                       |     |             | R                                     | 605 | RS1/16S102J |
|   | R                                     | 455 | RS1/16S181J | R                                     | 606 | RS1/16S0R0J |
|   | R                                     | 456 | RS1/16S181J | R                                     | 607 | RS1/16S104J |
|   | R                                     | 457 | RS1/16S181J | R                                     | 608 | RS1/16S102J |
|   | R                                     | 458 | RS1/16S181J |                                       |     |             |
|   | R                                     | 459 | RS1/16S223J | R                                     | 609 | RS1/16S681J |
|   |                                       |     |             | R                                     | 610 | RS1/16S0R0J |
|   | R                                     | 460 | RS1/16S223J | R                                     | 611 | RS1/16S0R0J |
|   | R                                     | 474 | RS1/8S103J  | R                                     | 612 | RS1/16S102J |
|   | R                                     | 497 | RS1/8S221J  | R                                     | 613 | RS1/16S0R0J |
|   | R                                     | 501 | RS1/16S225J |                                       |     |             |
|   | R                                     | 502 | RS1/16S225J | R                                     | 614 | RS1/16S102J |
|   |                                       |     |             | R                                     | 615 | RS1/16S102J |
|   | R                                     | 503 | RS1/16S225J | R                                     | 616 | RS1/16S102J |
| C | R                                     | 504 | RS1/16S225J | R                                     | 617 | RS1/16S102J |
|   | R                                     | 505 | RS1/16S222J | R                                     | 618 | RS1/16S102J |
|   | R                                     | 506 | RS1/16S104J |                                       |     |             |
|   | R                                     | 507 | RS1/16S103J | R                                     | 619 | RS1/16S102J |
|   |                                       |     |             | R                                     | 620 | RS1/16S0R0J |
|   | R                                     | 508 | RS1/16S103J | R                                     | 621 | RS1/16S0R0J |
|   | R                                     | 509 | RS1/16S334J | R                                     | 622 | RS1/16S681J |
|   | R                                     | 510 | RS1/16S101J | R                                     | 623 | RS1/16S0R0J |
|   | R                                     | 511 | RS1/16S101J |                                       |     |             |
|   | R                                     | 512 | RS1/16S104J | R                                     | 629 | RS1/16S472J |
|   |                                       |     |             | R                                     | 631 | RS1/16S0R0J |
|   | R                                     | 513 | RS1/16S104J | R                                     | 632 | RS1/16S332J |
|   | R                                     | 514 | RS1/16S103J | R                                     | 633 | RS1/16S102J |
|   | R                                     | 515 | RS1/16S182J | R                                     | 634 | RS1/16S102J |
|   | R                                     | 516 | RS1/16S683J |                                       |     |             |
|   | R                                     | 517 | RS1/16S224J | R                                     | 635 | RS1/16S471J |
|   |                                       |     |             | R                                     | 636 | RS1/16S102J |
|   | R                                     | 518 | RS1/16S473J | R                                     | 637 | RS1/16S102J |
|   | R                                     | 519 | RS1/16S473J | R                                     | 638 | RS1/16S102J |
|   | R                                     | 520 | RS1/16S102J | R                                     | 639 | RS1/16S473J |
| D | R                                     | 522 | RS1/16S222J |                                       |     |             |
|   | R                                     | 525 | RS1/16S473J | R                                     | 641 | RS1/16S473J |
|   |                                       |     |             | R                                     | 642 | RS1/16S104J |
|   | R                                     | 526 | RS1/16S681J | R                                     | 643 | RS1/16S104J |
|   | R                                     | 527 | RS1/16S681J | R                                     | 644 | RS1/16S473J |
|   | R                                     | 528 | RS1/16S681J | R                                     | 645 | RS1/16S472J |
|   | R                                     | 529 | RS1/16S103J |                                       |     |             |
|   | R                                     | 530 | RS1/16S681J | R                                     | 646 | RS1/16S103J |
|   |                                       |     |             | R                                     | 651 | RS1/16S102J |
|   | R                                     | 531 | RS1/16S473J | R                                     | 652 | RS1/16S0R0J |
| E | R                                     | 532 | RS1/16S473J | R                                     | 654 | RS1/16S102J |
|   | R                                     | 533 | RS1/16S472J | R                                     | 655 | RS1/16S102J |
|   | R                                     | 534 | RS1/16S393J |                                       |     |             |
|   | R                                     | 535 | RS1/16S473J | R                                     | 656 | RS1/16S102J |
|   |                                       |     |             | R                                     | 657 | RAB4CQ102J  |
|   | R                                     | 536 | RS1/16S103J | R                                     | 658 | RS1/16S223J |
|   | R                                     | 537 | RS1/16S473J | R                                     | 659 | RAB4CQ102J  |
|   | R                                     | 538 | RS1/16S681J | R                                     | 660 | RS1/16S681J |
|   | R                                     | 539 | RS1/16S681J |                                       |     |             |
|   | R                                     | 540 | RS1/16S101J | R                                     | 661 | RAB4CQ473J  |
|   |                                       |     |             | R                                     | 662 | RS1/16S473J |
|   | R                                     | 541 | RS1/16S0R0J | R                                     | 671 | RS1/16S473J |
|   | R                                     | 542 | RS1/16S0R0J | R                                     | 672 | RAB4CQ473J  |
|   | R                                     | 547 | RS1/16S103J | R                                     | 677 | RS1/16S102J |
|   | R                                     | 548 | RS1/10S221J |                                       |     |             |
|   | R                                     | 561 | RS1/16S104J | R                                     | 678 | RAB4CQ102J  |
|   |                                       |     |             | R                                     | 679 | RS1/16S102J |
|   | R                                     | 562 | RS1/16S123J | R                                     | 680 | RS1/16S102J |
|   | R                                     | 563 | RS1/16S105J | R                                     | 681 | RS1/16S102J |
|   | R                                     | 564 | RS1/16S682J | R                                     | 684 | RS1/16S222J |
| F |                                       |     |             |                                       |     |             |



| ====Circuit Symbol and No.====Part Name | Part No.     | ====Circuit Symbol and No.====Part Name | Part No.     | A |
|-----------------------------------------|--------------|-----------------------------------------|--------------|---|
| R 685                                   | RS1/16S102J  | R 862                                   | RS1/16S104J  |   |
| R 686                                   | RS1/16S102J  | R 863                                   | RS1/16S223J  |   |
| R 689                                   | RS1/16S102J  | R 865                                   | RS1/16S103J  |   |
| R 690                                   | RS1/16S102J  | R 866                                   | RS1/16S103J  |   |
| R 691                                   | RS1/16S222J  |                                         |              |   |
|                                         |              | R 867                                   | RS1/16S472J  |   |
| R 692                                   | RS1/16S102J  | R 868                                   | RS1/16S102J  |   |
| R 693                                   | RS1/16S102J  | R 869                                   | RS1/16S102J  |   |
| R 694                                   | RS1/16S3302D | R 870                                   | RS1/10S102J  |   |
| R 698                                   | RS1/16S102J  | R 871                                   | RS1/16S472J  |   |
| R 699                                   | RS1/16S473J  |                                         |              |   |
|                                         |              | R 882                                   | RD1/4PU121J  |   |
| R 701                                   | RS1/16S473J  | R 884                                   | RS1/16S223J  |   |
| R 703                                   | RS1/4S101J   | R 886                                   | RS1/16S472J  |   |
| R 704                                   | RS1/4S101J   | R 888                                   | RS1/16S473J  | B |
| R 705                                   | RS1PMF680J   |                                         |              |   |
| R 711                                   | RS1/16S473J  |                                         |              |   |
|                                         |              | CAPACITORS                              |              |   |
| R 721                                   | RS1/16S102J  | C 201                                   | CEALNP4R7M16 |   |
| R 722                                   | RS1/16S473J  | C 202                                   | CEALNP4R7M16 |   |
| R 723                                   | RS1/16S103J  | C 203                                   | CEALNP4R7M16 |   |
| R 801                                   | RS1/8S222J   | C 204                                   | CEALNP4R7M16 |   |
| R 802                                   | RS1/8S472J   | C 205                                   | CCSRCH330J50 |   |
|                                         |              |                                         |              |   |
| R 803                                   | RS1/8S472J   | C 206                                   | CCSRCH330J50 |   |
| R 804                                   | RS1/8S472J   | C 207                                   | CCSRCH330J50 |   |
| R 805                                   | RS1/8S472J   | C 208                                   | CCSRCH330J50 |   |
| R 806                                   | RS1/8S472J   | C 209                                   | CKSRYB102K50 |   |
| R 807                                   | RS1/8S221J   | C 210                                   | CEALNP4R7M16 |   |
|                                         |              |                                         |              |   |
| R 810                                   | RS1/16S104J  | C 211                                   | CEALNP4R7M16 | C |
| R 811                                   | RS1/16S104J  | C 212                                   | CEALNP4R7M16 |   |
| R 812                                   | RS1/16S104J  | C 213                                   | CEALNP4R7M16 |   |
| R 819                                   | RS1/16S102J  | C 219                                   | CCSRCH220J50 |   |
| R 820                                   | RS1/16S123J  | C 220                                   | CCSRCH220J50 |   |
|                                         |              |                                         |              |   |
| R 821                                   | RS1/16S103J  | C 221                                   | CCSRCH220J50 |   |
| R 822                                   | RS1/16S103J  | C 222                                   | CCSRCH220J50 |   |
| R 823                                   | RS1/16S223J  | C 223                                   | CCH1016      |   |
| R 824                                   | RS1/16S102J  | C 224                                   | CCH1016      |   |
| R 825                                   | RS1/16S331J  | C 225                                   | CCH1016      |   |
|                                         |              |                                         |              |   |
| R 826                                   | RS1/16S103J  | C 226                                   | CCH1016      |   |
| R 827                                   | RS1/16S471J  | C 227                                   | CCSRCH221J50 |   |
| R 828                                   | RS1/16S221J  | C 228                                   | CCSRCH221J50 |   |
| R 829                                   | RS1/16S223J  | C 229                                   | CCSRCH221J50 |   |
| R 830                                   | RS1/10S221J  | C 230                                   | CCSRCH221J50 | D |
|                                         |              |                                         |              |   |
| R 832                                   | RS1/16S471J  | C 231                                   | CKSRYB473K50 |   |
| R 833                                   | RS1/16S221J  | C 232                                   | CEAL101M6R3  |   |
| R 834                                   | RS1/16S473J  | C 233                                   | CKSRYB102K50 |   |
| R 835                                   | RS1/16S223J  | C 235                                   | CCH1016      |   |
| R 840                                   | RS1/4S1R5J   | C 236                                   | CCH1016      |   |
|                                         |              |                                         |              |   |
| R 841                                   | RS1/4S1R5J   | C 237                                   | CCH1016      |   |
| R 842                                   | RS1/4S1R5J   | C 238                                   | CCH1016      |   |
| R 843                                   | RS1/4S1R5J   | C 239                                   | CKSRYB105K10 |   |
| R 844                                   | RS1/16S471J  | C 243                                   | CKSQYB102K50 |   |
| R 845                                   | RS1/16S471J  | C 244                                   | CKSQYB102K50 |   |
|                                         |              |                                         |              |   |
| R 846                                   | RS1/16S105J  | C 245                                   | CKSQYB102K50 |   |
| R 847                                   | RS1/10S361J  | C 246                                   | CKSQYB102K50 |   |
| R 848                                   | RS1/16S3301D | C 253                                   | CEAL220M6R3  | E |
| R 849                                   | RS1/16S4301D | C 254                                   | CKSRYB104K16 |   |
| R 850                                   | RS1/4S2R2J   | C 256                                   | CCSRCH270J50 |   |
|                                         |              |                                         |              |   |
| R 851                                   | RS1/16S471J  | C 257                                   | CCSRCH270J50 |   |
| R 852                                   | RS1/16S105J  | C 259                                   | CKSRYB104K16 |   |
| R 853                                   | RS1/16S102J  | C 260                                   | CCSRCH471J50 |   |
| R 854                                   | RS1/16S2701D | C 261                                   | CCSRCH471J50 |   |
| R 855                                   | RS1/16S4301D | C 262                                   | CEAL4R7M35   |   |
|                                         |              |                                         |              |   |
| R 856                                   | RS1/16S103J  | C 263                                   | CKSRYB473K50 |   |
| R 857                                   | RS1/16S103J  | C 309                                   | CKSRYB102K50 |   |
| R 858                                   | RS1/4S1R5J   | C 319                                   | CCSRCH220J50 |   |
| R 859                                   | RS1/4S1R5J   | C 320                                   | CCSRCH220J50 |   |
| R 860                                   | RS1/16S223J  | C 321                                   | CCSRCH220J50 |   |
|                                         |              |                                         |              |   |
| R 861                                   | RS1/16S103J  | C 322                                   | CCSRCH220J50 | F |
|                                         |              | C 323                                   | CCH1016      |   |

| A | ====Circuit Symbol and No.====Part Name |     |           | Part No.     | ====Circuit Symbol and No.====Part Name |     |            | Part No.     |
|---|-----------------------------------------|-----|-----------|--------------|-----------------------------------------|-----|------------|--------------|
|   |                                         |     |           |              |                                         |     |            |              |
|   | C                                       | 324 | 4.7μF/35V | CCH1016      | C                                       | 566 |            | CQMA333J50   |
|   | C                                       | 325 | 4.7μF/35V | CCH1016      |                                         |     |            |              |
|   | C                                       | 326 | 4.7μF/35V | CCH1016      | C                                       | 567 |            | CQMA333J50   |
|   |                                         |     |           |              | C                                       | 569 |            | CKSRYB333K16 |
|   | C                                       | 327 |           | CCSRCH221J50 | C                                       | 570 |            | CKSRYB103K50 |
|   | C                                       | 328 |           | CCSRCH221J50 | C                                       | 571 |            | CKSRYB682K50 |
|   | C                                       | 329 |           | CCSRCH221J50 | C                                       | 572 |            | CEAL470M16   |
|   | C                                       | 330 |           | CCSRCH221J50 |                                         |     |            |              |
|   | C                                       | 335 | 4.7μF/35V | CCH1016      | C                                       | 573 |            | CKSRYB392K50 |
|   |                                         |     |           |              | C                                       | 574 |            | CKSRYB334K10 |
|   | C                                       | 336 | 4.7μF/35V | CCH1016      | C                                       | 575 |            | CKSRYB102K50 |
|   | C                                       | 337 | 4.7μF/35V | CCH1016      | C                                       | 576 |            | CEAL470M16   |
|   | C                                       | 338 | 4.7μF/35V | CCH1016      | C                                       | 585 |            | CKSRYB223K50 |
|   | C                                       | 339 |           | CKSRYB105K10 |                                         |     |            |              |
| B | C                                       | 351 |           | CEAL4R7M35   | C                                       | 586 |            | CKSRYB223K50 |
|   |                                         |     |           |              | C                                       | 601 |            | CKSRYB102K50 |
|   | C                                       | 359 | 4.7μF/35V | CCH1016      | C                                       | 602 |            | CKSRYB103K50 |
|   | C                                       | 360 | 4.7μF/35V | CCH1016      | C                                       | 603 |            | CKSRYB103K50 |
|   | C                                       | 361 |           | CKSRYB103K50 | C                                       | 604 |            | CKSRYB104K16 |
|   | C                                       | 362 |           | CEAL101M10   |                                         |     |            |              |
|   | C                                       | 363 |           | CEAL100M16   | C                                       | 605 |            | CEAL220M6R3  |
|   |                                         |     |           |              | C                                       | 606 |            | CKSRYB104K16 |
|   | C                                       | 364 |           | CEAL220M16   | C                                       | 645 |            | CKSRYB103K50 |
|   | C                                       | 401 |           | CKSRYB183K50 | C                                       | 671 |            | CCSRCH101J50 |
|   | C                                       | 402 |           | CKSRYB183K50 | C                                       | 672 |            | CCSRCH101J50 |
|   | C                                       | 403 | 4.7μF/35V | CCH1016      |                                         |     |            |              |
|   | C                                       | 404 | 4.7μF/35V | CCH1016      | C                                       | 673 |            | CCSRCH101J50 |
|   |                                         |     |           |              | C                                       | 674 |            | CCSRCH101J50 |
|   | C                                       | 405 |           | CKSRYB105K10 | C                                       | 675 |            | CCSRCH101J50 |
|   | C                                       | 407 |           | CKSRYB105K10 | C                                       | 701 |            | CKSRYB103K50 |
| C | C                                       | 408 |           | CKSRYB105K10 | C                                       | 703 |            | CCSRCH221J50 |
|   | C                                       | 409 |           | CKSRYB104K16 |                                         |     |            |              |
|   | C                                       | 410 |           | CKSRYB104K16 | C                                       | 704 |            | CCSRCH221J50 |
|   |                                         |     |           |              | C                                       | 711 |            | CKSRYB102K50 |
|   | C                                       | 411 |           | CKSRYB102K50 | C                                       | 801 |            | CKSRYB102K50 |
|   | C                                       | 412 |           | CEAL470M6R3  | C                                       | 802 |            | CEAL1R0M50   |
|   | C                                       | 417 |           | CKSRYB331K50 | C                                       | 803 |            | CKSRYB102K50 |
|   | C                                       | 418 |           | CKSRYB331K50 |                                         |     |            |              |
|   | C                                       | 480 |           | CKSQYB102K50 | C                                       | 804 | 2200μF/16V | CCH1186      |
|   |                                         |     |           |              | C                                       | 805 |            | CKSQYB473K50 |
|   | C                                       | 492 |           | CKSRYB473K50 | C                                       | 806 |            | CKSRYB102K50 |
|   | C                                       | 493 |           | CCSQCH221J50 | C                                       | 807 |            | CEAL1R0M50   |
|   | C                                       | 494 |           | CCSQCH221J50 | C                                       | 808 |            | CKSRYB102K50 |
|   | C                                       | 497 |           | CCSRCH221J50 |                                         |     |            |              |
|   | C                                       | 503 |           | CKSQYB103K50 | C                                       | 814 |            | CEAL1R0M50   |
|   |                                         |     |           |              | C                                       | 815 |            | CEAL1R0M50   |
| D | C                                       | 504 |           | CKSRYB222K50 | C                                       | 816 | 100μF/10V  | CKSRYB103K50 |
|   | C                                       | 505 |           | CKSRYB222K50 | C                                       | 817 |            | CCH1402      |
|   | C                                       | 506 |           | CKSRYB222K50 | C                                       | 818 |            | CKSRYB103K50 |
|   | C                                       | 507 |           | CKSRYB222K50 |                                         |     |            |              |
|   | C                                       | 508 |           | CKSRYB103K50 | C                                       | 819 | 100μF/10V  | CCH1402      |
|   |                                         |     |           |              | C                                       | 820 |            | CKSRYB103K50 |
|   | C                                       | 509 |           | CKSRYB103K50 | C                                       | 821 |            | CKSRYB102K50 |
|   | C                                       | 510 |           | CEAL100M16   | C                                       | 824 | 100μF/10V  | CKSRYB472K50 |
|   | C                                       | 511 |           | CKSRYB472K50 | C                                       | 825 |            | CCH1402      |
|   | C                                       | 512 |           | CEAL100M16   |                                         |     |            |              |
|   | C                                       | 513 |           | CKSRYB473K50 | C                                       | 826 |            | CKSRYB472K50 |
|   |                                         |     |           |              | C                                       | 828 |            | CKSRYB102K50 |
|   | C                                       | 514 |           | CEAL2R2M50   | C                                       | 829 |            | CKSRYB103K50 |
|   | C                                       | 515 |           | CKSRYB102K50 | C                                       | 830 |            | CKSRYB103K50 |
|   | C                                       | 516 |           | CKSRYB103K50 | C                                       | 831 |            | CKSRYB103K50 |
|   | C                                       | 517 |           | CKSRYB103K50 |                                         |     |            |              |
| E | C                                       | 518 |           | CKSRYB392K50 | C                                       | 861 |            | CEAL101M6R3  |
|   |                                         |     |           |              | C                                       | 866 |            | CEAL100M16   |
|   | C                                       | 519 |           | CKSRYB103K50 | C                                       | 867 |            | CEAL100M16   |
|   | C                                       | 520 |           | CKSRYB103K50 | C                                       | 870 |            | CKSRYB103K50 |
|   | C                                       | 521 |           | CEAT101M10   | C                                       | 871 |            | CKSRYB103K50 |
|   | C                                       | 522 |           | CKSRYB103K50 |                                         |     |            |              |
|   | C                                       | 523 |           | CEAT100M50   | C                                       | 872 | 2200μF/16V | CCH1186      |
|   |                                         |     |           |              | C                                       | 883 |            | CKSRYB103K50 |
|   | C                                       | 524 |           | CKSRYB472K50 |                                         |     |            |              |
|   | C                                       | 525 |           | CCSQCH100J50 |                                         |     |            |              |
|   | C                                       | 526 |           | CKSRYB102K50 |                                         |     |            |              |
|   | C                                       | 529 |           | CKSQYB103K50 |                                         |     |            |              |
|   | C                                       | 561 |           | CEAL3R3M50   |                                         |     |            |              |
|   |                                         |     |           |              |                                         |     |            |              |
|   | C                                       | 562 |           | CKSRYB333K16 |                                         |     |            |              |
|   | C                                       | 563 |           | CEALNP1R0M50 |                                         |     |            |              |
| F | C                                       | 564 |           | CQMA683J50   |                                         |     |            |              |
|   | C                                       | 565 |           | CQMA333J50   |                                         |     |            |              |

====Circuit Symbol and No.==Part Name

Part No.

====Circuit Symbol and No.==Part Name

Part No.



KEYBOARD UNIT  
Consists of  
KEYBOARD PCB  
RIGHT PCB  
LEFT PCB

Unit Number : CWS1364  
Unit Name : Keyboard Unit

### MISCELLANEOUS

|    |     |                             |              |
|----|-----|-----------------------------|--------------|
| IC | 901 | IC                          | LC75804W     |
| Q  | 901 | Transistor                  | 2SB1132      |
| Q  | 902 | Transistor                  | 2SC4116      |
| Q  | 903 | Transistor                  | 2SB1132      |
| D  | 901 | Diode                       | 1SS355       |
| D  | 902 | Diode                       | 1SS355       |
| D  | 903 | Diode                       | 1SS355       |
| D  | 904 | Diode                       | 1SS355       |
| D  | 905 | Diode                       | 1SS355       |
| D  | 906 | Chip LED                    | NSCW310-0371 |
| D  | 907 | Chip LED                    | NSCW310-0371 |
| D  | 911 | Chip LED                    | NSCW310-0371 |
| D  | 912 | Chip LED                    | NSCW310-0371 |
| D  | 916 | LED                         | SML-310FC    |
| D  | 917 | LED                         | SML-310FC    |
| D  | 920 | Diode                       | HZU4R7(B3)   |
| IL | 901 | Lamp 8V 60mA                | CEL1732      |
| IL | 902 | Lamp 8V 60mA                | CEL1731      |
| IL | 903 | Lamp 8V 60mA                | CEL1731      |
| IL | 904 | Lamp 8V 60mA                | CEL1731      |
| IL | 905 | Lamp 8V 60mA                | CEL1731      |
| IL | 906 | Lamp 8V 60mA                | CEL1731      |
| IL | 907 | Lamp 8V 60mA                | CEL1731      |
| IL | 908 | Lamp 8V 60mA                | CEL1732      |
| IL | 911 | Lamp 8V 60mA                | CEL1730      |
| IL | 912 | Lamp 8V 60mA                | CEL1730      |
| IL | 913 | Lamp 8V 60mA                | CEL1732      |
| IL | 914 | Lamp 8V 60mA                | CEL1730      |
| IL | 915 | Lamp 8V 60mA                | CEL1730      |
| IL | 916 | Lamp 8V 60mA                | CEL1730      |
| IL | 917 | Lamp 8V 60mA                | CEL1730      |
| IL | 918 | Lamp 8V 60mA                | CEL1732      |
| IL | 919 | Lamp 8V 60mA                | CEL1734      |
| IL | 920 | Lamp 8V 60mA                | CEL1746      |
| IL | 921 | Lamp 8V 60mA                | CEL1746      |
| IL | 922 | Lamp 8V 60mA                | CEL1734      |
| IL | 923 | Lamp 8V 60mA                | CEL1746      |
| IL | 924 | Lamp 8V 60mA                | CEL1746      |
| VR | 901 | Encoder(POWER/VOL)          | CSD1088      |
| VR | 902 | Encoder(TUNE/AUDIO CONTROL) | CSD1087      |

LCD

CAW1722

### RESISTORS

|   |     |             |
|---|-----|-------------|
| R | 901 | RAB4CQ102J  |
| R | 902 | RS1/16S102J |
| R | 903 | RAB4CQ102J  |
| R | 905 | RS1/16S222J |
| R | 906 | RS1/16S222J |
| R | 907 | RS1/16S222J |
| R | 908 | RS1/16S393J |
| R | 909 | RS1/16S681J |
| R | 910 | RAB4CQ102J  |
| R | 911 | RS1/16S471J |
| R | 912 | RS1/16S103J |
| R | 914 | RS1/16S223J |

|   |     |             |
|---|-----|-------------|
| R | 915 | RS1/16S223J |
| R | 916 | RS1/16S223J |
| R | 918 | RAB4CQ0R0J  |
| R | 920 | RAB4CQ0R0J  |
| R | 922 | RAB4CQ0R0J  |
| R | 923 | RS1/10S331J |
| R | 924 | RS1/10S331J |
| R | 926 | RS1/10S331J |
| R | 927 | RS1/10S331J |
| R | 928 | RS1/16S103J |
| R | 929 | RS1/8S151J  |
| R | 931 | RS1/16S200J |
| R | 932 | RS1/16S200J |
| R | 933 | RS1/16S200J |
| R | 934 | RS1/16S200J |
| R | 935 | RS1/16S200J |
| R | 936 | RS1/16S200J |
| R | 942 | RS1/16S103J |
| R | 943 | RS1/8S151J  |
| R | 944 | RS1/10S100J |
| R | 945 | RS1/10S100J |
| R | 946 | RS1/10S180J |
| R | 947 | RS1/10S100J |
| R | 948 | RS1/10S100J |
| R | 949 | RS1/10S100J |
| R | 950 | RS1/10S100J |
| R | 951 | RS1/10S180J |
| R | 952 | RS1/16S0R0J |
| R | 953 | RS1/10S151J |
| R | 954 | RS1/10S151J |
| R | 955 | RS1/10S151J |
| R | 956 | RS1/10S151J |
| R | 965 | RS1/10S100J |
| R | 967 | RS1/10S100J |
| R | 968 | RS1/10S100J |
| R | 970 | RS1/10S120J |
| R | 971 | RS1/8S151J  |
| R | 972 | RS1/8S151J  |
| R | 973 | RS1/10S100J |
| R | 975 | RS1/10S120J |
| R | 976 | RS1/10S100J |
| R | 978 | RS1/10S100J |
| R | 982 | RS1/8S180J  |
| R | 983 | RS1/8S150J  |
| R | 984 | RS1/8S180J  |
| R | 985 | RS1/8S150J  |
| R | 988 | RS1/8S180J  |
| R | 989 | RS1/8S150J  |
| R | 994 | RS1/8S150J  |
| R | 995 | RS1/8S180J  |
| R | 998 | RS1/16S472J |
| R | 999 | RS1/16S103J |

### CAPACITORS

|   |     |              |
|---|-----|--------------|
| C | 906 | CKSRYB474K10 |
| C | 907 | CKSRYB104K25 |
| C | 908 | CKSRYB104K25 |
| C | 909 | CKSRYB104K25 |
| C | 910 | CCSRCH102J50 |
| C | 911 | CCSRCH101J50 |
| C | 913 | CCSRCH101J50 |
| C | 915 | CKSRYB103K50 |
| C | 918 | CKSRYB104K25 |
| C | 919 | CKSRYB104K25 |
| C | 922 | CCSRCH101J50 |
| C | 923 | CCSRCH101J50 |
| C | 924 | CCSRCH101J50 |

A

====Circuit Symbol and No.====Part Name

Part No.

====Circuit Symbol and No.====Part Name

Part No.

C 925

CCSRCH101J50

**E** Unit Number : CWX2608  
Unit Name : Control Unit

## MISCELLANEOUS

|        |            |          |
|--------|------------|----------|
| IC 101 | IC         | TA2153FN |
| IC 201 | IC         | TC9495FP |
| IC 401 | IC         | BA5996FM |
| IC 701 | IC         | BA055FP  |
| Q 101  | Transistor | 2SD1664  |

|       |
|-------|
| R 709 |
| R 710 |
| R 901 |
| R 902 |
| R 903 |

|             |
|-------------|
| RS1/16S102J |
| RS1/16S102J |
| RS1/16S104J |
| RS1/16S473J |
| RS1/16S273J |

B

|       |                             |         |
|-------|-----------------------------|---------|
| Q 102 | Transistor                  | UMD2N   |
| L 201 | Inductor                    | CTF1546 |
| L 202 | Inductor                    | CTF1546 |
| X 301 | Ceramic Resonator 16.934MHz | CSS1525 |
| S 901 | Spring Switch(HOME)         | CSN1051 |

## CAPACITORS

|       |
|-------|
| C 101 |
| C 102 |
| C 103 |
| C 104 |
| C 105 |

|              |
|--------------|
| CEV470M6R3   |
| CKSRYB102K50 |
| CKSRYB104K16 |
| CKSRYB224K16 |
| CEV470M6R3   |

|       |                       |         |
|-------|-----------------------|---------|
| S 902 | Spring Switch(CLAMP)  | CSN1052 |
| S 903 | Spring Switch(DSCSNS) | CSN1051 |
| S 904 | Spring Switch(12EJ)   | CSN1052 |
| S 905 | Spring Switch(8EJ)    | CSN1051 |

|       |
|-------|
| C 106 |
| C 107 |
| C 201 |
| C 202 |
| C 204 |

|               |
|---------------|
| CKSRYB104K16  |
| CKSRYB105K6R3 |
| CKSRYB104K16  |
| CCSRCH560J50  |
| CKSRYB224K16  |

## RESISTORS

|       |             |
|-------|-------------|
| R 101 | RS1/16S222J |
| R 102 | RS1/8S120J  |
| R 103 | RS1/8S100J  |
| R 201 | RS1/16S513J |
| R 202 | RS1/16S513J |

|       |
|-------|
| C 205 |
| C 206 |
| C 207 |
| C 208 |
| C 209 |

|              |
|--------------|
| CKSRYB224K16 |
| CKSRYB273K25 |
| CKSRYB273K25 |
| CKSRYB104K16 |
| CKSRYB104K16 |

C

|       |              |
|-------|--------------|
| R 203 | RS1/16S9102D |
| R 204 | RS1/16S9102D |
| R 206 | RS1/16S8202D |
| R 208 | RS1/16S124J  |
| R 209 | RS1/16S183J  |

|       |
|-------|
| C 210 |
| C 211 |
| C 301 |
| C 302 |
| C 303 |

|              |
|--------------|
| CCSRCK2R0C50 |
| CCSRCH220J50 |
| CKSRYB153K25 |
| CKSRYB104K16 |
| CKSRYB103K50 |

|       |             |
|-------|-------------|
| R 210 | RS1/16S153J |
| R 211 | RS1/16S103J |
| R 212 | RS1/16S103J |
| R 213 | RS1/16S124J |
| R 215 | RS1/16S0R0J |

|       |
|-------|
| C 304 |
| C 305 |
| C 306 |
| C 307 |
| C 308 |

|              |
|--------------|
| CKSRYB103K50 |
| CKSRYB104K16 |
| CKSRYB104K16 |
| CKSRYB333K16 |
| CKSRYB104K16 |

D

|       |             |
|-------|-------------|
| R 216 | RS1/16S471J |
| R 301 | RS1/16S333J |
| R 302 | RS1/16S332J |
| R 303 | RS1/16S332J |
| R 304 | RS1/16S514J |

|       |
|-------|
| C 309 |
| C 310 |
| C 311 |
| C 312 |
| C 315 |

|              |
|--------------|
| CKSRYB473K16 |
| CKSRYB473K16 |
| CKSRYB104K16 |
| CKSRYB104K16 |
| CEV220M6R3   |

|       |             |
|-------|-------------|
| R 306 | RS1/16S102J |
| R 307 | RS1/16S102J |
| R 312 | RS1/16S103J |
| R 313 | RS1/16S473J |
| R 315 | RS1/16S334J |

|       |
|-------|
| C 317 |
| C 318 |
| C 319 |
| C 320 |
| C 325 |

|              |
|--------------|
| CKSRYB104K16 |
| CKSRYB104K16 |
| CKSRYB104K16 |
| CCSRCH470J50 |
| CKSRYB471K50 |

|       |             |
|-------|-------------|
| R 321 | RS1/16S331J |
| R 322 | RS1/16S0R0J |
| R 323 | RS1/16S332J |
| R 401 | RS1/16S684J |
| R 402 | RS1/16S103J |

|       |
|-------|
| C 328 |
| C 329 |
| C 330 |
| C 331 |
| C 401 |

|              |
|--------------|
| CKSRYB472K50 |
| CKSRYB104K16 |
| CKSRYB104K16 |
| CKSRYB221K50 |

E

|       |             |
|-------|-------------|
| R 403 | RS1/16S103J |
| R 404 | RS1/16S183J |
| R 405 | RS1/16S123J |
| R 407 | RS1/16S622J |
| R 408 | RS1/16S622J |

|       |
|-------|
| C 402 |
| C 403 |
| C 404 |
| C 405 |
| C 702 |

|              |
|--------------|
| CKSRYB221K50 |
| CKSRYB153K25 |
| CKSRYB103K50 |
| CEV101M10    |
| CKSRYB104K16 |

|       |             |
|-------|-------------|
| R 409 | RS1/16S113J |
| R 410 | RS1/16S752J |
| R 701 | RS1/16S102J |
| R 702 | RS1/16S221J |
| R 703 | RS1/16S221J |

|       |          |
|-------|----------|
| C 703 | 10μF/10V |
| C 801 |          |
| C 802 |          |
| C 803 |          |

|              |
|--------------|
| CKSRYB104K16 |
| CCH1349      |
| CEV101M10    |
| CKSRYB224K16 |
| Unit Number  |

**F** Unit Number : EWM1043  
Unit Name : Deck Unit

## MISCELLANEOUS

|        |                    |          |
|--------|--------------------|----------|
| IC 251 | IC                 | HA12216F |
| IC 351 | IC                 | PA2020A  |
| Q 271  | Transistor         | 2SC4116  |
| D 352  | Diode              | 1SS355   |
| VR 301 | Semi-fixed 33kΩ(B) | CCP1280  |

|          |
|----------|
| HA12216F |
| PA2020A  |
| 2SC4116  |
| 1SS355   |
| CCP1280  |

F

|       |             |
|-------|-------------|
| R 704 | RS1/16S221J |
| R 705 | RS1/16S221J |
| R 706 | RS1/16S221J |
| R 707 | RS1/16S221J |
| R 708 | RS1/16S102J |

====Circuit Symbol and No.==Part Name

Part No.

VR 302 Semi-fixed 33kΩ(B)

CCP1280

## RESISTORS

R 255  
R 256  
R 257  
R 258  
R 259RS1/16S181J  
RS1/16S181J  
RS1/16S183J  
RS1/16S183J  
RS1/16S133JR 260  
R 261  
R 262  
R 271  
R 272RS1/16S133J  
RS1/16S274J  
RS1/16S274J  
RS1/16S183J  
RS1/8S0R0JR 273  
R 275  
R 276  
R 277  
R 278RS1/8S0R0J  
RS1/16S473J  
RS1/16S104J  
RS1/16S224J  
RS1/16S104JR 281  
R 282  
R 283  
R 284  
R 285RS1/8S0R0J  
RS1/8S0R0J  
RS1/8S0R0J  
RS1/8S0R0J  
RS1/8S0R0JR 286  
R 287  
R 288  
R 292  
R 296RS1/8S0R0J  
RS1/8S0R0J  
RS1/8S0R0J  
RS1/8S0R0J  
RS1/16S0R0JR 321  
R 351  
R 352  
R 353  
R 354RS1/8S0R0J  
RS1/16S102J  
RS1/16S102J  
RS1/16S102J  
RS1/16S102JR 355  
R 362  
R 373  
R 374  
R 375RS1/16S274J  
RS1/8S301J  
RS1/16S0R0J  
RS1/8S0R0J  
RS1/16S0R0JR 401  
R 402  
R 403  
R 404RS1/16S153J  
RS1/16S332J  
RS1/16S911J  
RS1/16S274J

## CAPACITORS

C 251  
C 252  
C 253  
C 254  
C 255CKSRYB391K50  
CKSRYB391K50  
CKSRYB391K50  
CKSRYB391K50  
CKSRYB103K50C 256  
C 271  
C 272  
C 301  
C 302CKSRYB103K50  
CEH1ROM50  
CKSRYB104K16  
CKSRYB104K16  
CKSRYB104K16C 309  
C 310  
C 351  
C 352  
C 353CKSRYB104K16  
CKSRYB104K16  
CKSQYB224K25  
CKSRYB392K50  
CKSRYB103K50C 354  
C 355  
C 356  
C 401  
C 402CKSRYB103K50  
CKSQYB104K50  
CKSRYB103K50  
CKSRYB392K50  
CKSRYB334K10C 403  
C 404CKSRYB223K25  
CKSRYB103K50

====Circuit Symbol and No.==Part Name

Part No.

C 405

CKSRYB333K16



Unit Number : EWM1041

Unit Name : Sensor Unit

## MISCELLANEOUS

L 101  
L 102  
S 101  
S 102  
S 103Inductor  
Inductor  
Switch(LOAD)  
Switch(MODE)  
Switch(70μS)CTF1546  
CTF1546  
ESG1007  
ESG1007  
ESG1007

Q 101

Photo-reflector

EGN1004

## Miscellaneous Parts List

M 1  
M 2  
  
M 1  
M 2Motor Unit(SPINDLE)  
Motor Unit(LOADING/CARRIAGE)  
Pickup Unit(Service)(P9)  
Motor Unit(MAIN)  
Motor Unit(SUB)CXB6007  
CXB8284  
CXX1482  
EXA1618  
EXA1623

HD 1

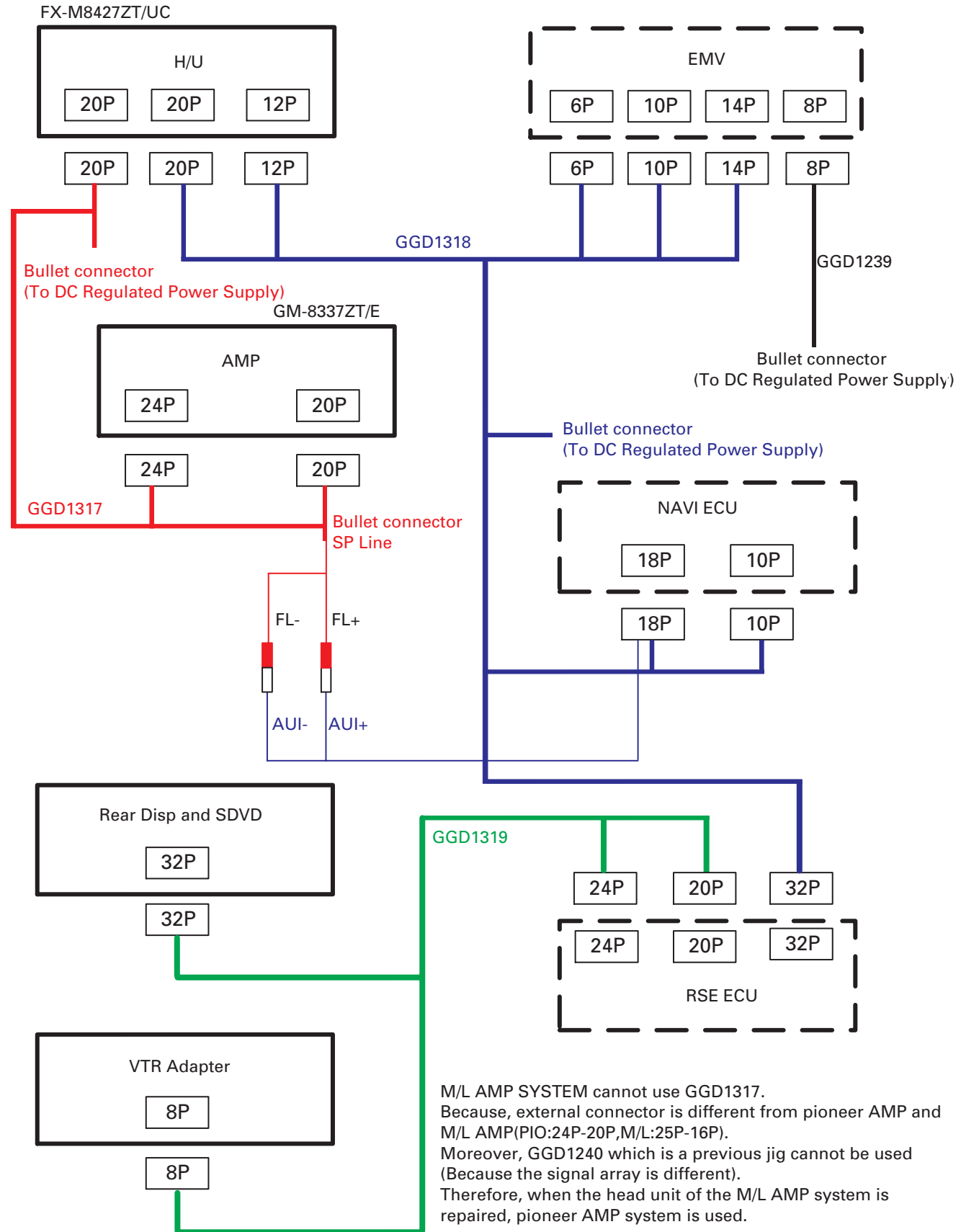
Head Assy

EXA1594

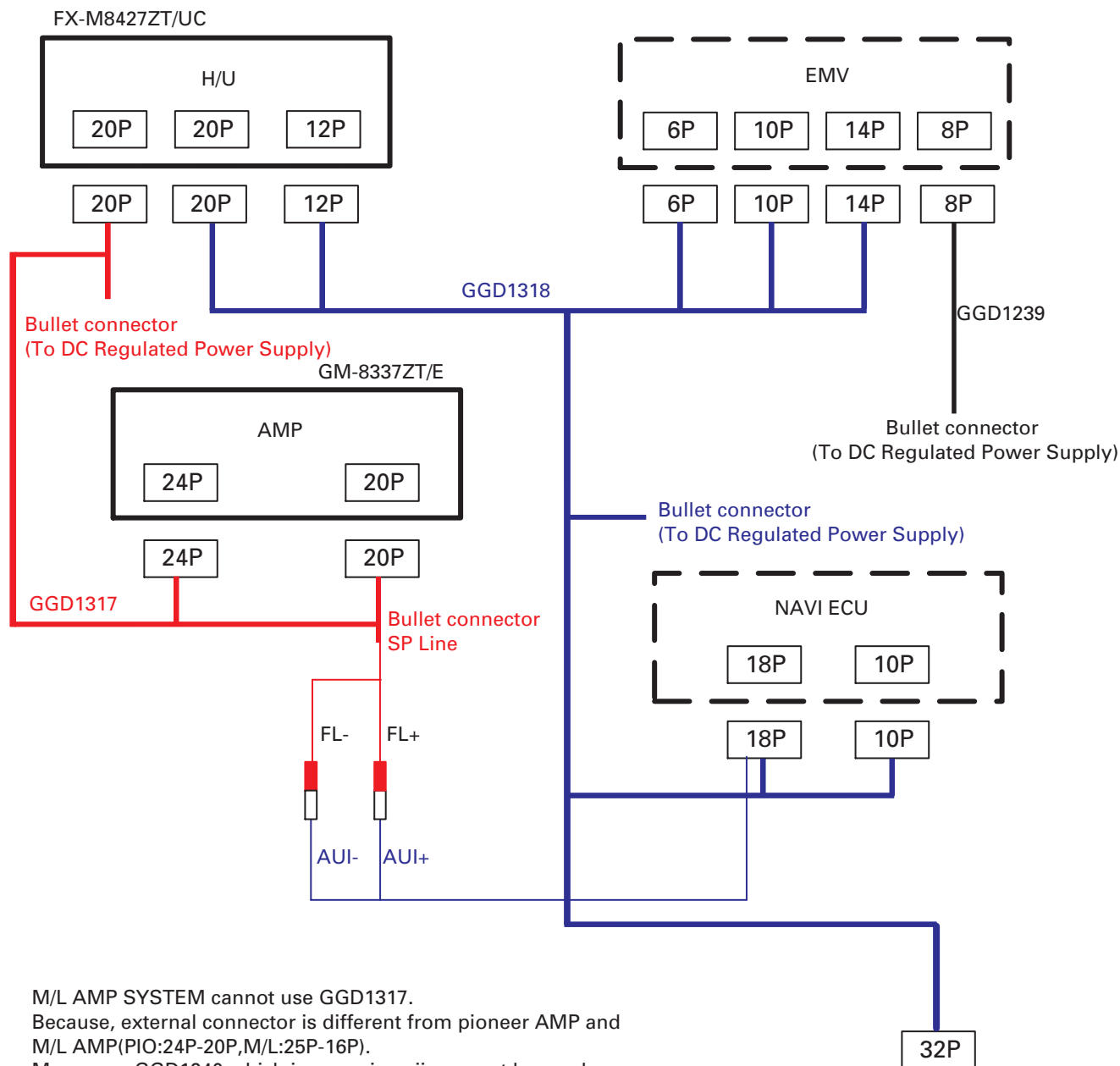
## 6. ADJUSTMENT

### 6.1 CONNECTION DIAGRAM

#### ● EMV/RSE/NAVI SYSTEM



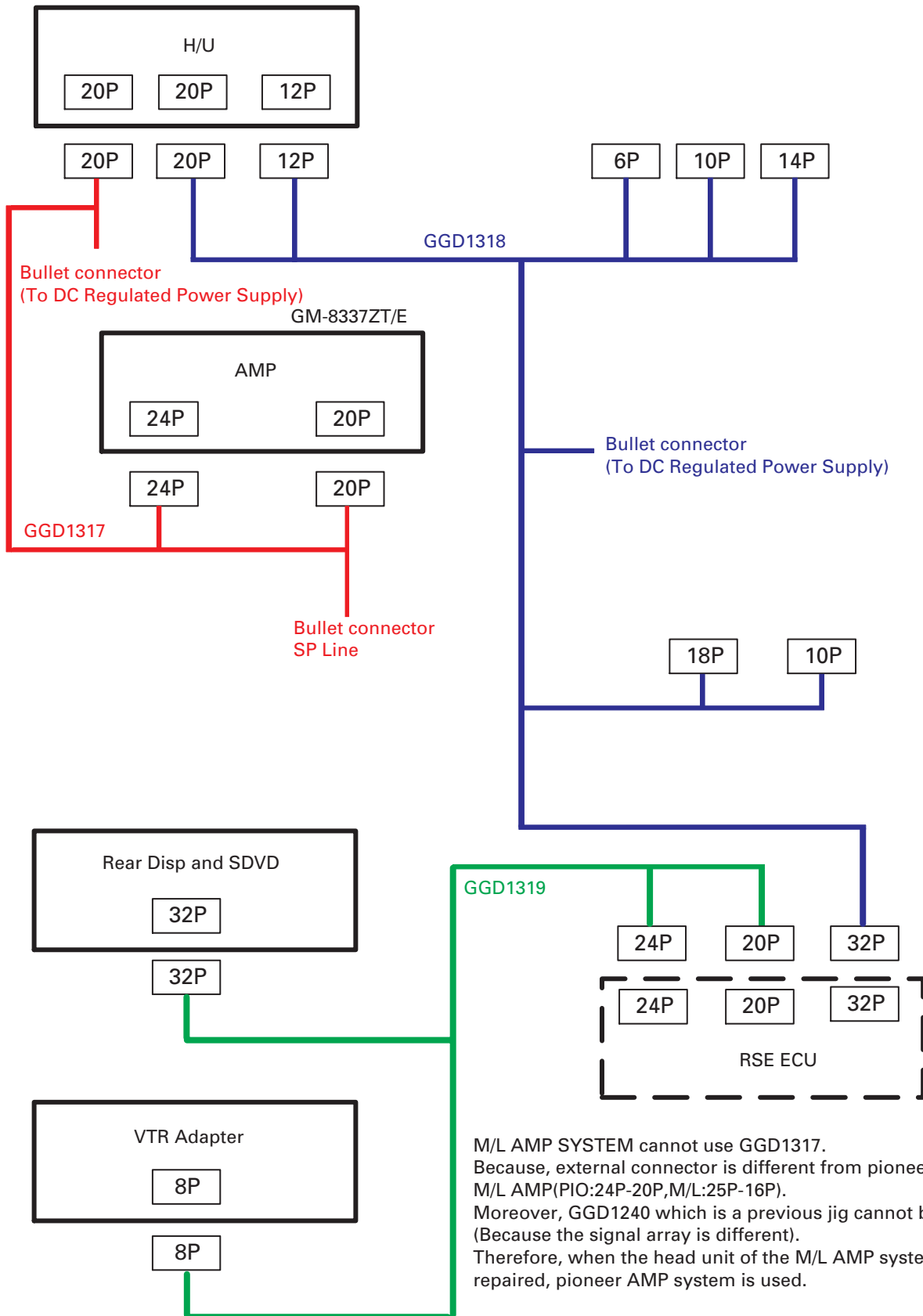
## ● EMV/NAVI SYSTEM



M/L AMP SYSTEM cannot use GGD1317.  
 Because, external connector is different from pioneer AMP and  
 M/L AMP(PIO:24P-20P,M/L:25P-16P).  
 Moreover, GGD1240 which is a previous jig cannot be used  
 (Because the signal array is different).  
 Therefore, when the head unit of the M/L AMP system is  
 repaired, pioneer AMP system is used.

# RSE SYSTEM

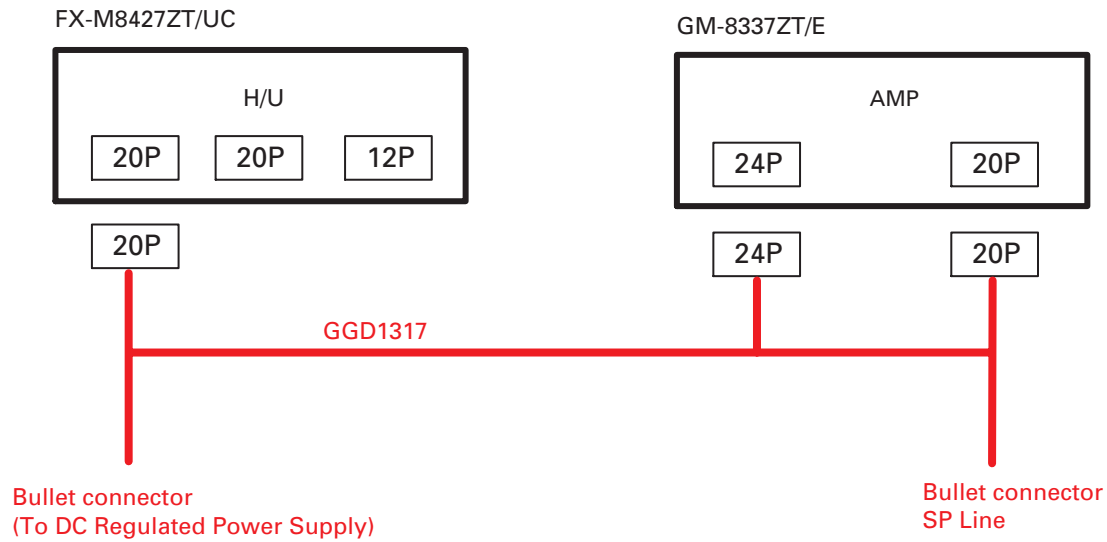
FX-M8427ZT/UC



M/L AMP SYSTEM cannot use GGD1317.  
 Because, external connector is different from pioneer AMP and M/L AMP(PIO:24P-20P,M/L:25P-16P).  
 Moreover, GGD1240 which is a previous jig cannot be used (Because the signal array is different).  
 Therefore, when the head unit of the M/L AMP system is repaired, pioneer AMP system is used.



## ● STANDARD SYSTEM



M/L AMP SYSTEM cannot use GGD1317.  
 Because, external connector is different from pioneer AMP and  
 M/L AMP(PIO:24P-20P,M/L:25P-16P).  
 Moreover, GGD1240 which is a previous jig cannot be used  
 (Because the signal array is different).  
 Therefore, when the head unit of the M/L AMP system is  
 repaired, pioneer AMP system is used.

A

6.2 AUDIO, TUNER ADJUSTMENT

B

C

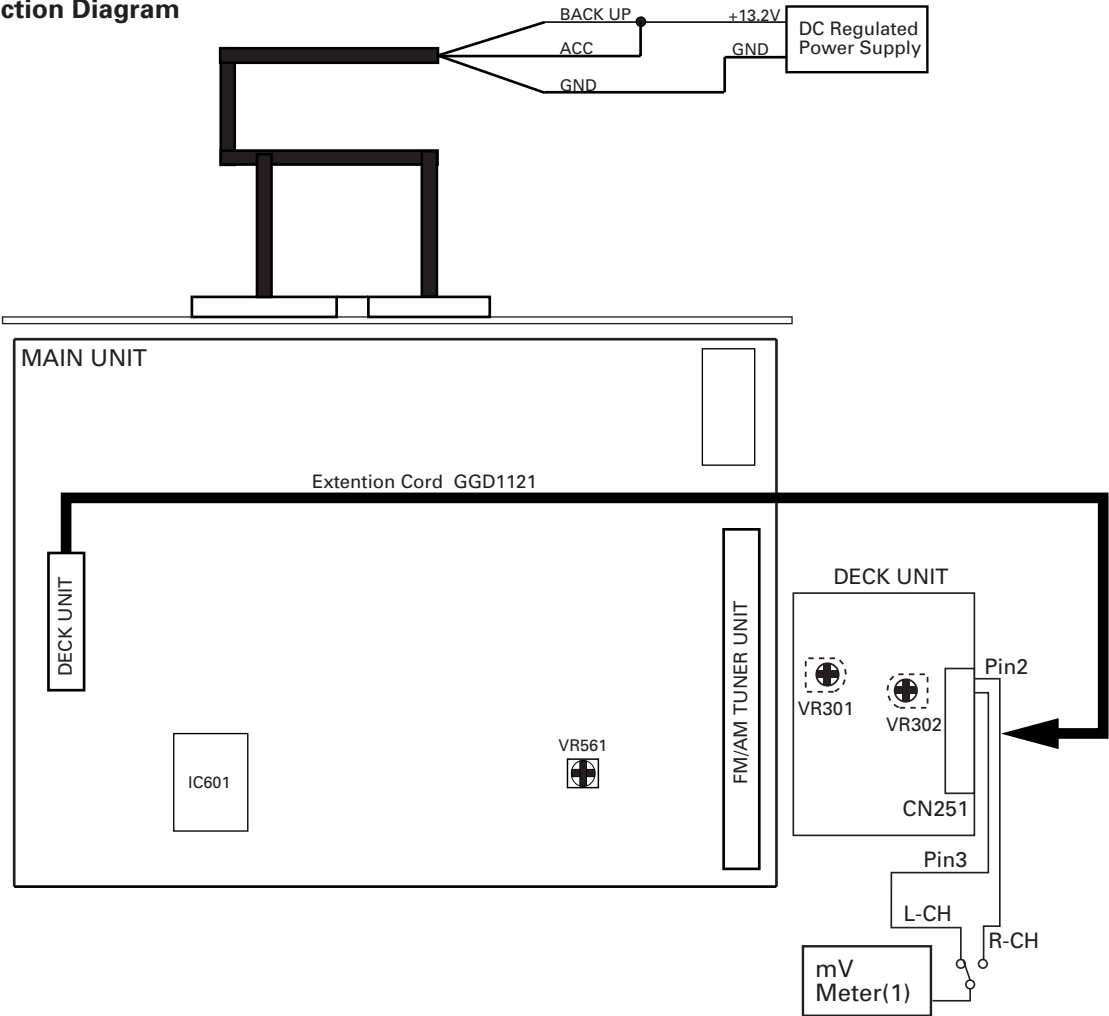
D

E

F



● Connection Diagram

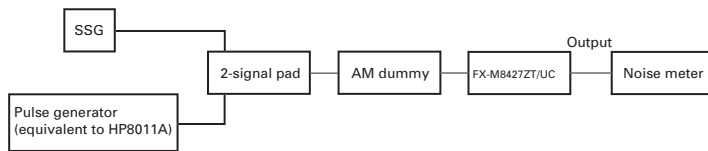


DOLBY B NR ADJUSTMENT

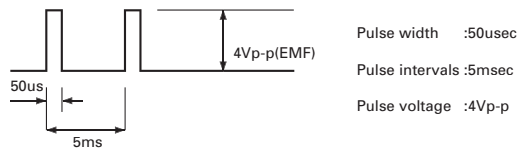
| No. | Test Tape                   | Adjustment Point      | Adjustment Method<br>(Switch Position)                       |
|-----|-----------------------------|-----------------------|--------------------------------------------------------------|
| 1   | NCT-150<br>(400Hz,200nwb/m) | VR301(Lch),VR302(Rch) | mV Meter(1) : -8.24dBm(300mV)±1dB<br>(DOLBY NR Switch : OFF) |

## AM NOISE CANCELER ADJUSTMENT

Connection:



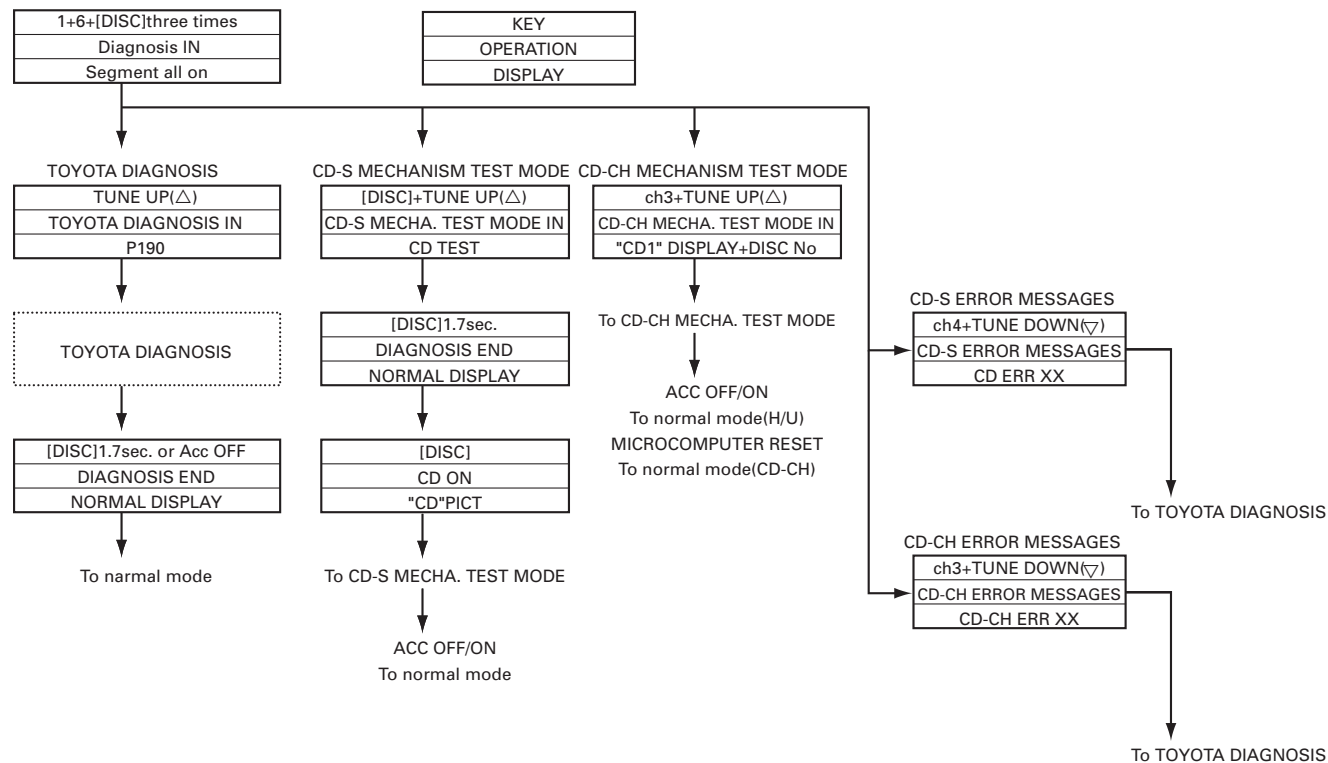
Setting of the pulse generator (setting of superimposed pulse)



Adjustment:

1. Setting of SSG
    - Receiving frequency : 1,000 kHz
    - Percentage modulation : 30%
    - Modulation frequency : 400 Hz
    - Antenna input : 74 dBuV (EMF)
  2. Tune a RADIO to the "1,000 kHz" with 1' condition.
  3. Mix signal with the above-mentioned pulse and SSG' modulation OFF.
  4. Variable resistance adjust noise level to a minimum.
- Adjustment point : VR561

## 6.3 TEST MODE



| OPERATION           | KEY OPERATION                 |
|---------------------|-------------------------------|
| To diagnosis        | ch.1+ch.6+DISC(three times)   |
| CDS error messages  | CH.4 + TUNE DOWN on diagnosis |
| To CDS test mode    | DISC + TUNE UP on diagnosis   |
| CDCH error messages | CH.3 + TUNE DOWN on diagnosis |
| To CDCH test mode   | CH.3 + TUNE UP on diagnosis   |

## 6.4 CD ADJUSTMENT

### 1) Precautions

- This unit uses a single power supply (+5V) for the regulator. The signal reference potential, therefore, is connected to VREF(approx. 2.1V) instead of GND. If VREF and GND are connected to each other by mistake during adjustments, not only will it be impossible to measure the potential correctly, but the servo will malfunction and a severe shock will be applied to the pick-up. To avoid this, take special note of the following.  
Do not connect the negative probe of the measuring equipment to VREF and GND together. It is especially important not to connect the channel 1 negative probe of the oscilloscope to VREF with the channel 2 negative probe connected to GND.  
Since the frame of the measuring instrument is usually at the same potential as the negative probe, change the frame of the measuring instrument to floating status.  
If by accident VREF comes in contact with GND, immediately switch the regulator or power OFF.
- Always make sure the regulator is OFF when connecting and disconnecting the various filters and wiring required for measurements.
- Before proceeding to further adjustments and measurements after switching regulator ON, let the player run for about one minute to allow the circuits to stabilize.
- Since the protective systems in the unit's software are rendered inoperative in test mode, be very careful to avoid mechanical and /or electrical shocks to the system when making adjustment.
- The RFI and RFO signals are easy to oscillate because of a wide band. When observing them, insert a resistor of about 1 k $\Omega$  to the series.
- This equipment will not guarantee the load ejection operation when the mechanical unit is turned upside down. In particular, if the ejection operation is incorrectly performed and recovery is disabled, the recovery is enabled by resetting a product or turning ACC off to on.

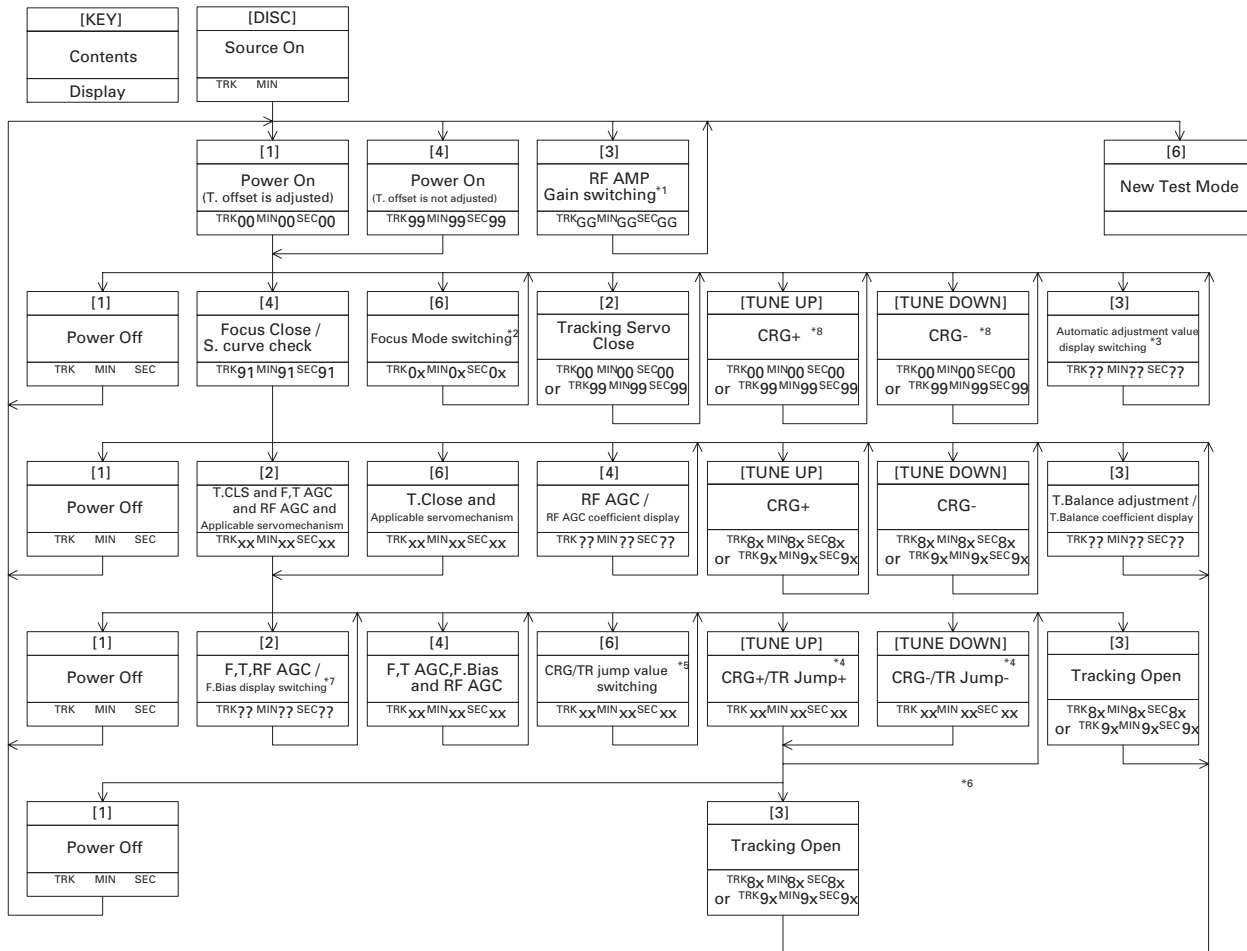
### 2) Test Mode

This mode is used for adjusting the CD mechanism module of the device.

- After pressing the EJECT key, do not press any other key until the disk is completely ejected.
- If the TUNE UP or TUNE DOWN key is pressed while focus search is in progress, immediately turn the power off (otherwise the actuator may be damaged due to adhesion of the lenses).
- Jump operation of TRs other than 100TR continues after releasing the key. CRG move and 100TR jump operations are brought into the "Tracking close" status when the key is released.
- Powering Off/On resets the jump mode to "Single TR(91)", the RF AMP gain setting to 0 dB, and the automatic adjustment value to the initial value.

A

# Flow Chart



D

- \*1) TYP TRK MIN SEC → TRK12 MIN12 SEC12
- \*2) Focus Close setting TRK00 MIN00 SEC00 or TRK99 MIN99 SEC99 → S. curve check setting TRK01 MIN01 SEC01 → F. EQ measurement setting TRK02 MIN02 SEC02
- \*3) F.Offset Display → T.Offset Display → Switch to the order of the original display
- \*4) 1TR/32TR/100TR
- \*5) Single TR TRK91 MIN91 SEC91 or TRK81 MIN81 SEC81 → 32TR TRK92 MIN92 SEC92 or TRK82 MIN82 SEC82 → 100TR TRK93 MIN93 SEC93 or TRK83 MIN83 SEC83 → CRG Move TRK94 MIN94 SEC94 or TRK84 MIN84 SEC84
- \*6) Only at the time of CRG move or 100TR jump
- \*7) TRK/MIN/SEC → F.AGC Gain → T.AGC Gain → F.Bias → RF AGC Gain
- \*8) CRG motor voltage = 2 [V]

E

| [Key]       | Operation                                                              |                                               |
|-------------|------------------------------------------------------------------------|-----------------------------------------------|
|             | Test Mode                                                              | New Test Mode                                 |
| [1]         | Power On/Off                                                           | Error occurrence time/cause display switching |
| [TUNE UP]   | CRG +/TR Jump+ (Direction of the external surface)                     | -                                             |
| [TUNE DOWN] | CRG -/TR Jump- (Direction of the internal surface)                     | -                                             |
| [2]         | T.CLS and AGC and Applicable servomechanism/AGC,AGC display switching  | -                                             |
| [3]         | RF Gain switching/Offset adjustment display/T.Balance adjustment/T.OPN | -                                             |
| [4]         | F.CLS,S.Curve/Rough Servo and RF AGC/F.T,RF AGC                        | Error occurrence time/cause display switching |
| -           | SPDL 1X/2X switching (Double-speed compatibility only)                 | -                                             |
| -           | Error rate measurement                                                 | -                                             |
| [6]         | F.Mode switching/T.CLS/CRG,TR Jump switching                           | -                                             |

F

# 6.5 CHECKING THE GRATING AFTER CHANGING THE PICKUP UNIT



**Note :**

The grating angle of the PU unit cannot be adjusted after the PU unit is changed. The PU unit in the CD mechanism module is adjusted on the production line to match the CD mechanism module and is thus the best adjusted PU unit for the CD mechanism module. Changing the PU unit is thus best considered as a last resort. However, if the PU unit must be changed, the grating should be checked using the procedure below.

**Purpose :**

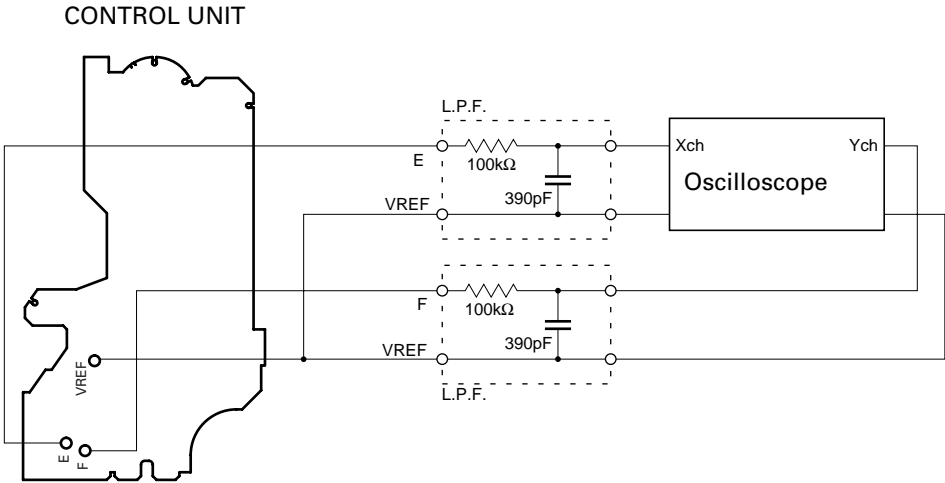
To check that the grating is within an acceptable range when the PU unit is changed.

**Symptoms of Mal-adjustment :**

If the grating is off by a large amount symptoms such as being unable to close tracking, being unable to perform track search operations, or taking a long time for track searching.

**Method :**

- |                       |                            |
|-----------------------|----------------------------|
| • Measuring Equipment | • Oscilloscope, Two L.P.F. |
| • Measuring Points    | • E, F, VREF               |
| • Disc                | • ABEX TCD-784             |
| • Mode                | • TEST MODE                |



**Checking Procedure**

1. In test mode, load the disc and switch the 5V regulator on.
2. Using the TUNE UP and TUNE DOWN buttons, move the PU unit to the innermost track.
3. Press key **4** to close focus, the display should read "91". Press key **3** to implement the tracking balance adjustment the display should now read "81". Press key **4**. The display will change, returning to "81" on the fourth press.
4. As shown in the diagram above, monitor the LPF outputs using the oscilloscope and check that the phase difference is within 75°. Refer to the photographs supplied to determine the phase angle.
5. If the phase difference is determined to be greater than 75° try changing the PU unit to see if there is any improvement. If, after trying this a number of times, the grating angle does not become less than 75° then the mechanism should be judged to be at fault.

**Note**

Because of eccentricity in the disc and a slight misalignment of the clamping center the grating waveform may be seen to "wobble" ( the phase difference changes as the disc rotates). The angle specified above indicates the average angle.

**Hint**

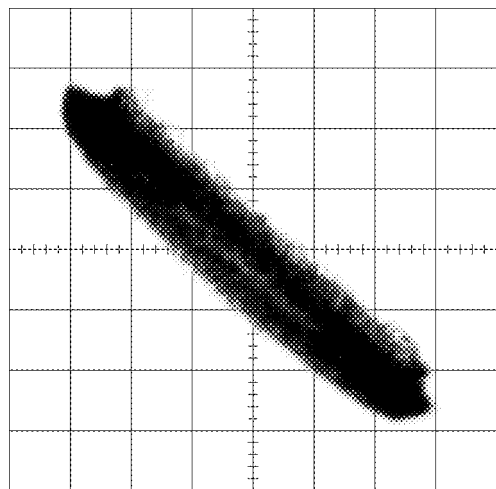
Reloading the disc changes the clamp position and may decrease the "wobble".

**Grating waveform**

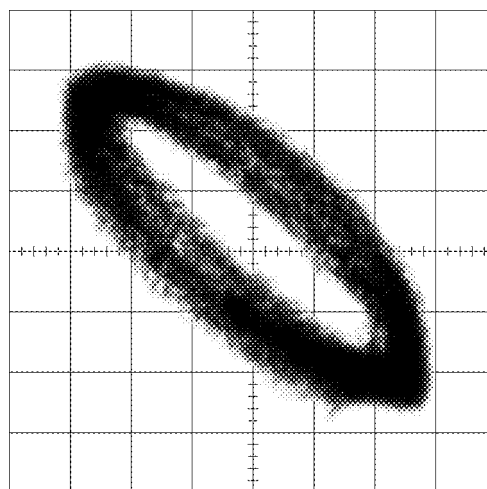
Ech → Xch 20mV/div, AC

Fch → Ych 20mV/div, AC

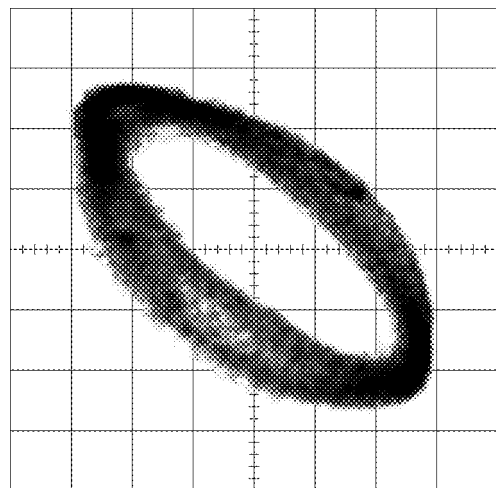
0°



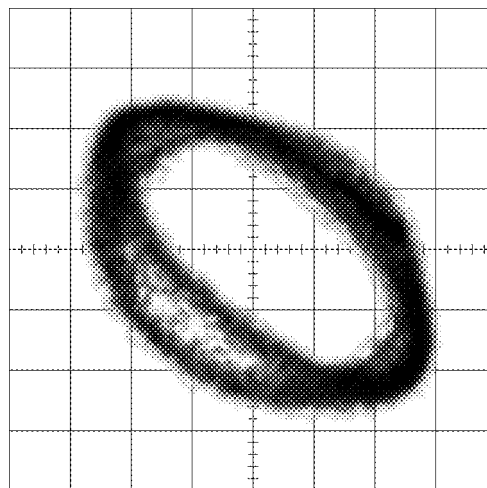
30°



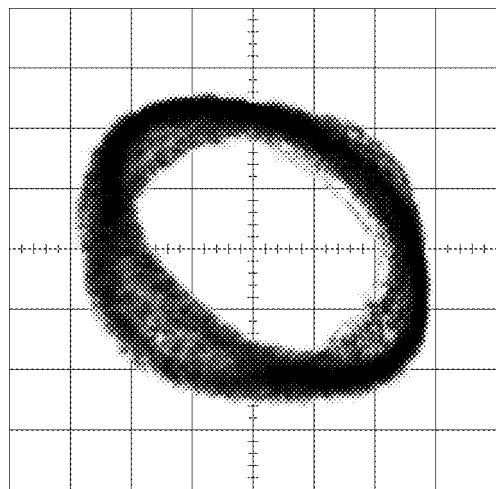
45°



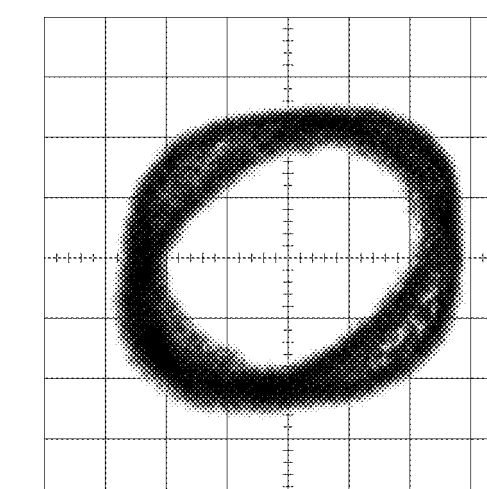
60°



75°



90°





## 6.6 ERROR CODE

### ● Error Messages

If a CD is not operative or stopped during operation due to an error, the error mode is turned on and cause(s) of the error is indicated with a corresponding number. This arrangement is intended at reducing nonsense calls from the users and also for facilitating trouble analysis and repair work in servicing.

#### (1) Basic Indication Method

When SERRORM is selected for the CSMOD (CD mode area for the system), error codes are written to DMIN (minutes display area) and DSEC (seconds display area). The same data is written to DMIN and DSEC. DTNO remains in blank as before.

#### 2) Head unit display

ERROR x

#### (2) Error Code List

| Error code                    | CD-SINGLE                                                                                                                     |                                                                                                                           |                                                                                |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| Error code                    | Error code                                                                                                                    | Details                                                                                                                   | Error                                                                          |
| [ERROR1]<br>(Failure on disc) | 11:Focus search NG<br>12:Spindle lock NG<br>14:Mirror NG<br>17:Set up NG<br>19:Set up NG<br>30:Search time out<br>44:ALL SKIP | Focus error<br>Spindle not lock<br>CD-R not recoding<br>AGC protection error<br>Tracking error<br>Don't search<br>RW only | Display<br>Display<br>Display<br>Display<br>Display<br>Display<br>Unconformity |
| [ERROR2]<br>(No magazine)     | CD-CH only                                                                                                                    | CD-CH only                                                                                                                | Display<br>Merit on match model                                                |
| [ERROR3]                      | 10:CRG home error                                                                                                             | Mechanical error                                                                                                          | Display                                                                        |
| [ERROR4]                      | A0:System error                                                                                                               | A over electric current                                                                                                   | Display                                                                        |
| [ERROR5]                      | No match                                                                                                                      |                                                                                                                           |                                                                                |
| [ERROR6]                      | No match                                                                                                                      |                                                                                                                           |                                                                                |
| [CD OPEN]                     | CD-CH only                                                                                                                    | CD-CH only                                                                                                                | Display<br>Merit on match model                                                |
| [WAIT]                        | High temperature detection                                                                                                    | Condition of high temperature                                                                                             | Display                                                                        |

Priority level of error display.

Remarks: Mechanical errors are not displayed (because a CD is turned off in these errors).

Unreadable TOC does not constitute an error. An intended operation continues in this case.

Upper digits of an error code are subdivided as shown below:

1x: Setup relevant errors, 3x: Search relevant errors, Ax: Other errors.

## ● New Test Mode

S-CD plays the same way as before.

If an error such as off focus, spindle unlocking, unreadable sub-code, or sound skipping occurs after setup, its cause and time occurred (in absolute time) are displayed.

During setup, operational status of the control software is displayed.

These displays and functions are prepared for enhancing aging in the servicing and efficiency of trouble analysis.

### (1) Shifting to the New Test Mode

- ① Turn on the current test mode by starting the reset from the key.
- ② Select S-CD for the source through the specified procedure including use of the [CD]key,[DISC]key, and inserting the disc. Then, press the [6] key while maintaining the regulator turned off.
- ③ After the above operations, the new test mode remains on irrespective of whether the S-CD is turned on or off.  
You can reset the new test mode by turning on the ACC On/Off.

### (2) Key Correspondence

| Key       | New test mode |                        |
|-----------|---------------|------------------------|
|           | In-play       | Error Production       |
| 1         | RANDOM        | —                      |
| —         | —             | —                      |
| TUNE UP   | TRACK UP      | —                      |
| TUNE DOWN | TRACK DOWN    | —                      |
| 4         | —             | Time/Err.No. switching |
| REW       | REV           | —                      |
| FF        | FF            | —                      |
| —         | —             | —                      |
| —         | —             | —                      |

Note: Eject and CD on/off is performed in the same procedure as that for the normal mode.

### (3) Cause of Error and Error Code

| Code | Class       | Contents                 | Description and cause                                                                                    |
|------|-------------|--------------------------|----------------------------------------------------------------------------------------------------------|
| 40   | Electricity | Off focus detected.      | FOK goes low.<br>→ Damages/stains on disc, vibrations or failure on servo.                               |
| 41   | Electricity | Spindle unlocked.        | LOCK = Low continued for 150 msec.<br>→ Damages/stains on disc, vibrations or failure on servo.          |
| 42   | Electricity | Sub-code unreadable.     | Sub-code was unreadable for 500 msec.<br>→ Damages/stains on disc, vibrations or failure on servo.       |
| 43   | Electricity | Sound skipping detected. | Last address memory function was activated.<br>→ Damages/stains on disc, vibrations or failure on servo. |

Note: Mechanical errors during aging are not displayed.

## (4) Display of Operational Status during Setup

| Status No. | Contents                                                      | Protective action                               |
|------------|---------------------------------------------------------------|-------------------------------------------------|
| 21         | Focus search start                                            | Focus search timeout.                           |
| 22         | Focus search 2                                                | Focus search timeout.                           |
| 23         | Focus search 3                                                | Focus search timeout.                           |
| 24         | Focus search 4                                                | Focus search timeout.                           |
| 25         | Focus search(Setup protection)                                | Focus slips off.                                |
| 26         | Focus search(Fast recovery)                                   | Focus slips off.                                |
| 27         | RF detection                                                  | Focus slips off.                                |
| 28         | Spindle rough servocontrol                                    | Focus slips off.                                |
| 29         | Tracking balance adjustment start                             | Focus slips off.                                |
| 30         | Tracking balance adjustment 2                                 | Focus slips off.                                |
| 31         | Tracking balance adjustment 3                                 | Focus slips off.                                |
| 32         | Tracking close start(Spindle stationary servocontrol setting) | Focus slips off.                                |
| 33         | Tracking close 2                                              | Focus slips off.                                |
| 34         | Tracking close 3                                              | Focus slips off.                                |
| 35         | Focus/Tracking AGC start                                      | Focus slips off.                                |
| 36         | Focus/Tracking AGC 2                                          | Focus slips off.                                |
| 37         | Focus/Tracking AGC 3                                          | Focus slips off.                                |
| 38         | Focus/Tracking AGC 4                                          | Focus slips off.                                |
| 39         | Focus/Tracking AGC 5                                          | Focus slips off.                                |
| 40         | Focus/Tracking AGC 6                                          | Focus slips off.                                |
| 41         | Focus/Tracking AGC 7                                          | Focus slips off.                                |
| 42         | Focus/Tracking AGC 8                                          | Focus slips off.                                |
| 43         | FE bias start                                                 | Focus slips off.                                |
| 44         | FE bias 2                                                     | Focus slips off.                                |
| 45         | RF AGC start                                                  | Focus slips off.                                |
| 46         | RF AGC 2                                                      | Focus slips off.                                |
| 47         | Lock check start                                              | Focus slips off.                                |
| 48         | Lock is being checked                                         | Focus slips off.                                |
| 49         | Subcode check start                                           | Focus slips off, spindle lock is not performed. |
| 50         | Subcode is being checked                                      | Focus slips off, no subcode can be read.        |

# (5) Display Examples

## 1) During Setup

TNO. Min Sec

11 11' 11"

## 2) During Operation (TOC read, TRK search, Play, FF and REV)

The same as in the normal mode.

## 3) When a Protection Error Occurred

(A) Error display ((A)←→(B) : 4 key)

display

xx xx' xx"

example

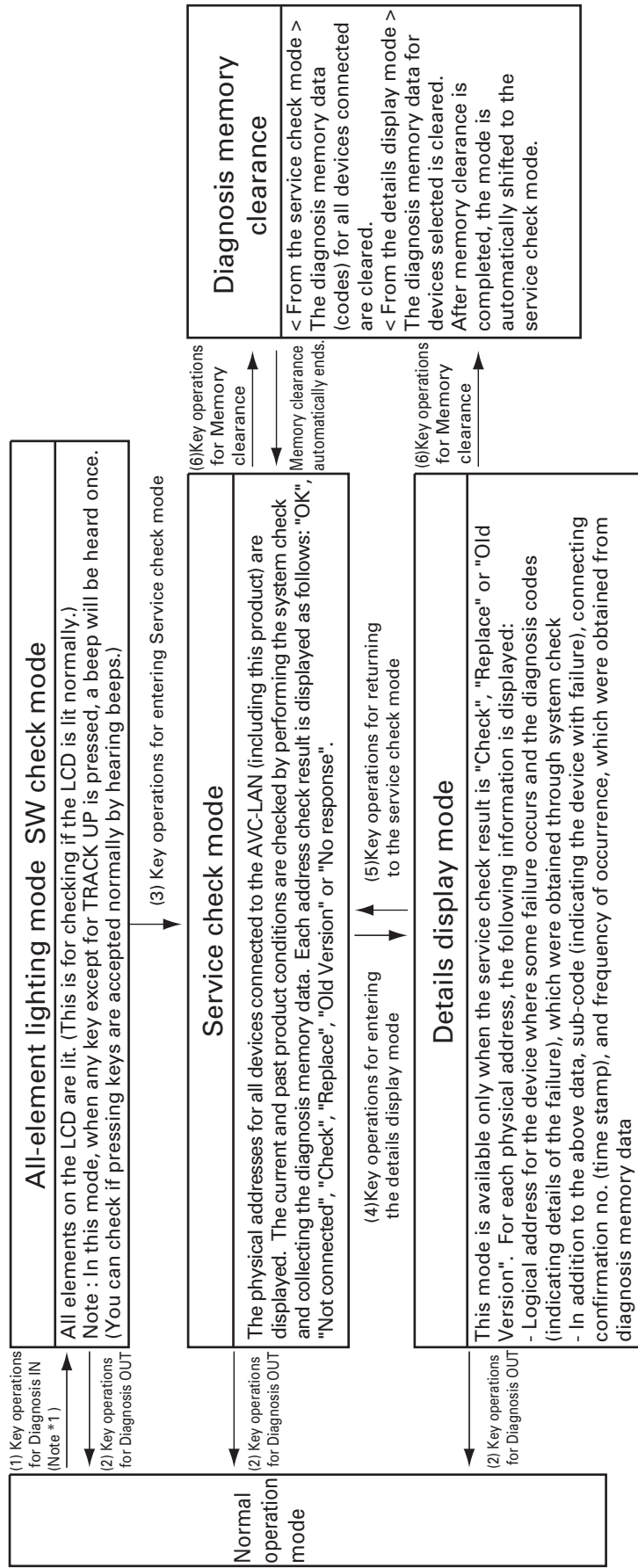
43 43' 43"

(B) Error occurrence timing display in track No. and Error occurrence timing display in absolute time.

TNO. Min Sec

10 40' 05"

●AVC-LAN DIAGNOSIS MODE  
●Operations and functions



●Key operations

|                                                                                          |                                                                                           |
|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| (1) Diagnosis IN<br>With three times of beep sound, the mode change operation completes. | While pressing the CH1 and CH6 buttons simultaneously, press the DISC button three times. |
| (2) Diagnosis OUT                                                                        | Keep the DISC button pressed for 1.7 seconds or more and turn the ACC switch OFF.         |
| (3) Entering the Service check mode.<br>With a beep sound, the mode change completes.    | Press the TRACK UP button.                                                                |
| (4) Entering the Details display mode.                                                   | Press the CH2 button.                                                                     |
| (5) Returning to the service check mode.                                                 | Press the CH3 button.                                                                     |
| (6) Clearing the Memory data                                                             | Keep the CH5 button pressed for 1.7 seconds or more.                                      |
| Change the display (forward)                                                             | Press the TRACK UP button.                                                                |
| Change the display (backward)                                                            | Press the TRACK DOWN button.                                                              |

Note \*1: To enter the diagnosis IN mode, use the buttons on the head unit.

| Service check mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Details display mode (only in case of "Replace", "Check", or "Old Version")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>After system check completes, the check results for the devices connected to the AVC-LAN are displayed in turn in order of physical address number as follows:</p> <ul style="list-style-type: none"> <li>◆ "Physical address"<br/>...The smallest physical address number is displayed first, whose check result will follow it.<br/>Ex. P190<br/>Physical address number (radio cassette)<br/>The physical address is displayed.</li> <li>◆ "Check result"<br/>...The check result is displayed.<br/>Ex. good Normal (OK)<br/>Replace<br/>CHecK<br/>OLd<br/>Old Version<br/>Details display mode</li> <li>◆ "Physical address"<br/>...The next physical address number is displayed.</li> <li>◆ "Connecting confirmation no. (current)"<br/>...The AVC-LAN time stamp is displayed.<br/>Ex. no01<br/>The connecting confirmation number is displayed.<br/>The current connecting confirmation number (expressed in the hexadecimal number system by using 00 to FF)</li> </ul> <p>The number increases by one each time one minute passes. When 256 minutes pass, the indication returns to 00.</p> | <p>This mode is available only when the service check result is "Replace", "Check" or "Old Version". To select this mode, press the CH2 key.</p> <ul style="list-style-type: none"> <li>◆ "Physical address (for selected devices)"<br/>The physical address number is displayed, whose check result details will follow it.<br/>Ex. P360<br/>Physical address number (CD-CH)<br/>Diagnosis data source"</li> <li>◆ "Diagnosis data source"<br/>The detailed items depend on the data source.<br/>Ex. Sys The data was obtained from system check.<br/>"Logical address"<br/>The logical address number for the device with failure is displayed.<br/>Ex. 1L_63<br/>Logical address number (CD-CH)<br/>The logical address is displayed.<br/>Serial number</li> <li>◆ "Diagnosis code"<br/>The diagnosis code indicates what problem occurs.<br/>Ex. 1d_45<br/>Diagnosis code (abnormal EJECT)<br/>The diagnosis code is displayed.</li> <li>◆ "Connecting confirmation number (when some failure occurs)" ... AVC-LAN time stamp<br/>Ex. no01<br/>The connecting confirmation number (expressed in the hexadecimal number system by using 00 to FF)<br/>The connecting confirmation number is displayed.</li> <li>◆ "Frequency of occurrence"<br/>...The frequency of failures occurred<br/>Ex. 1c_15<br/>The frequency of occurrence expressed in the decimal number system.<br/>The frequency of occurrence is displayed.</li> </ul> <p>If there are two or more diagnosis codes, the diagnosis data display will continue.</p> |

Physical address allocation

| ③ | ②               | 0               | 1            | 2                  | 3          | 4                           | 5 | 6                       | 7                        | 8         | 9 | A     | B                | C                         | D                            | E               | F                          |
|---|-----------------|-----------------|--------------|--------------------|------------|-----------------------------|---|-------------------------|--------------------------|-----------|---|-------|------------------|---------------------------|------------------------------|-----------------|----------------------------|
| ① | 1               | M.DISP computer | New EMV      | New device with AV | New MM ECU | device with AV              |   |                         |                          | Audio ECU |   | DVD-P | Rear TV          | Rear Control SW           | Multi-CD decoder             | CD-CH commander | AMP controlled radio tuner |
|   | 0               |                 |              |                    |            |                             |   |                         |                          |           |   |       |                  |                           |                              |                 |                            |
|   | 2               |                 |              |                    |            |                             |   |                         |                          |           |   |       |                  |                           |                              |                 |                            |
|   | 4               |                 |              |                    |            |                             |   |                         |                          |           |   |       | 1-DIN Navigation | Europe GW ECU             | Simple LCD                   | Consolidated SW |                            |
|   | 6               |                 |              |                    |            |                             |   |                         |                          |           |   |       |                  | Consolidated inside panel | Gateway ECU                  |                 | RSE-M                      |
|   | 8               |                 | New 1-DIN TV |                    |            | Europe navigation DISP./M/U |   | Rear TV with movie mode | Navigation with controls |           |   |       | DISPLAY with SW  | FM multiplex DISPLAY      | Fr controlled SW             | MD-CH commander |                            |
|   | C               |                 |              |                    |            |                             |   |                         | MONET ECU                |           |   |       |                  | Steering SW               | Navigation remote controller | Body computer   |                            |
|   | E               |                 |              |                    |            |                             |   |                         | Vehicle Information ECU  |           |   |       |                  |                           |                              |                 |                            |
|   | 1,3,5,7,9-B,D,F |                 |              |                    |            |                             |   |                         |                          |           |   |       |                  |                           |                              |                 |                            |

Display  
P①②③  
Ex.P190  
Physical address

| ③ | ②       | 0                   | 1    | 2    | 3        | 4         | 5          | 6                   | 7 | 8                 | 9 | A | B | C | D | E | F |
|---|---------|---------------------|------|------|----------|-----------|------------|---------------------|---|-------------------|---|---|---|---|---|---|---|
| ① | 2       | Navigation computer | ATIS | VICS | TV tuner | H/W CD-CH | H/W DVD-CH | TEL information ECU |   | Camera controller |   |   |   |   |   |   |   |
|   | 0       |                     |      |      |          |           |            |                     |   |                   |   |   |   |   |   |   |   |
|   | 8       |                     |      |      |          |           |            |                     |   |                   |   |   |   |   |   |   |   |
|   | 1-7,9-F |                     |      |      |          |           |            |                     |   |                   |   |   |   |   |   |   |   |

| ③ | ②       | 0     | 1 | 2        | 3                                    | 4    | 5 | 6          | 7 | 8    | 9 | A     | B | C   | D | E   | F       |
|---|---------|-------|---|----------|--------------------------------------|------|---|------------|---|------|---|-------|---|-----|---|-----|---------|
| ① | 3       | Radio |   | Cassette | Radio cassette with no CH controller | CD-P |   | 1DIN CD-CH |   | MD-P |   | MD-CH |   | DAT |   | DCC |         |
|   | 0       |       |   |          |                                      |      |   |            |   |      |   |       |   |     |   |     |         |
|   | 8       |       |   |          |                                      |      |   |            |   |      |   |       |   |     |   |     | TEL ECU |
|   | 1-7,9-F |       |   |          |                                      |      |   |            |   |      |   |       |   |     |   |     |         |

| ③ | ②   | 0         | 1 | 2 | 3 | 4   | 5 | 6 | 7 | 8       | 9 | A | B | C | D | E | F |
|---|-----|-----------|---|---|---|-----|---|---|---|---------|---|---|---|---|---|---|---|
| ① | 4   | Equalizer |   |   |   | DSP |   |   |   | H/W AMP |   |   |   |   |   |   |   |
|   | 0   |           |   |   |   |     |   |   |   |         |   |   |   |   |   |   |   |
|   | 1-F |           |   |   |   |     |   |   |   |         |   |   |   |   |   |   |   |

| ③ | ②           | 0            | 1            | 2                    | 3 | 4     | 5 | 6     | 7 | 8          | 9 | A          | B | C               | D | E | F |
|---|-------------|--------------|--------------|----------------------|---|-------|---|-------|---|------------|---|------------|---|-----------------|---|---|---|
| ① | 5           | GPS receiver | ATIS decoder | FM multiplex decoder |   | CD-CH |   | MD-CH |   | CD-ROM -CH |   | MD-ROM -CH |   | TEL information |   |   |   |
|   | 0           |              |              | Radio wave beacon    |   |       |   |       |   |            |   |            |   | May Day         |   |   |   |
|   | 8           |              |              |                      |   |       |   |       |   |            |   |            |   |                 |   |   |   |
|   | C           |              |              | Optical beacon       |   |       |   |       |   |            |   |            |   |                 |   |   |   |
|   | 1-7,9-B,D,F |              |              |                      |   |       |   |       |   |            |   |            |   |                 |   |   |   |

| ③ | ②   | 0            | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8             | 9 | A | B | C | D | E | F |
|---|-----|--------------|---|---|---|---|---|---|---|---------------|---|---|---|---|---|---|---|
| ① | 6   | A/C computer |   |   |   |   |   |   |   | Body computer |   |   |   |   |   |   |   |
|   | 0   |              |   |   |   |   |   |   |   |               |   |   |   |   |   |   |   |
|   | 1-F |              |   |   |   |   |   |   |   |               |   |   |   |   |   |   |   |

A

B

C

D

E

F

Diagnosis code table

| Logical address name | Logical address   | Diagnosis code | Diagnosis details                     |
|----------------------|-------------------|----------------|---------------------------------------|
| Radio                | 60H               | 10             | AM tuner PLL unlocked                 |
|                      |                   | 11             | FM tuner PLL unlocked                 |
|                      |                   | 40             | No antenna connected                  |
|                      |                   | 41             | Antenna power supply abnormal         |
|                      |                   | 42             | Tuner power supply abnormal           |
| TV tuner             | 40H               | 43             | AM tuner abnormal                     |
|                      |                   | 44             | FM tuner abnormal                     |
|                      |                   | 45             | SW tuner abnormal                     |
|                      |                   | 10             | TV tuner PLL unlocked                 |
|                      |                   | 11             | FRONTEND abnormal                     |
| Cassette tape        | 61H               | 40             | TV divergence shifting error          |
|                      |                   | 41             | TV - no reception                     |
|                      |                   | 42             | VNR screen error                      |
|                      |                   | 43             | No antenna connected                  |
|                      |                   | 44             | Antenna power supply abnormal         |
| CD                   | 43H<br>62H<br>63H | 45             | SEL +B current - small                |
|                      |                   | 10             | SEL +B current - large                |
|                      |                   | 16             | Belt broken                           |
|                      |                   | 40             | Mechanical failure or cassette broken |
|                      |                   | 41             | EJECT failure                         |
| CD-P<br>CD-CH        | 43H<br>62H<br>63H | 42             | TAPE jamming                          |
|                      |                   | 43             | Dirty head                            |
|                      |                   | 44             | Mech power supply abnormal            |
|                      |                   | 10             | CD Mech abnormal                      |
|                      |                   | 11             | CD loading/unloading abnormal         |
| MD<br>MD-CH          | 64H<br>65H        | 12             | CD lead-in abnormal                   |
|                      |                   | 40             | No disc loaded                        |
|                      |                   | 41             | Incorrect disc                        |
|                      |                   | 42             | Disc unreadable                       |
|                      |                   | 43             | CD-ROM abnormal                       |
|                      | 64H<br>65H        | 44             | CD abnormal                           |
|                      |                   | 45             | EJECT abnormal                        |
|                      |                   | 46             | Scratches or non-recorded side        |
|                      |                   | 47             | CD high temperature detected          |
|                      |                   | 48             | Excessive current detected            |
|                      | 64H<br>65H        | 50             | Tray IN/OUT abnormal                  |
|                      |                   | 51             | Elevator abnormal                     |
|                      |                   | 52             | Clamp abnormal                        |
|                      |                   | 10             | MD mech abnormal                      |
|                      |                   | 11             | MD IN/OUT abnormal                    |
|                      | 64H<br>65H        | 12             | MD lead-in abnormal                   |
|                      |                   | 40             | No disc loaded                        |
|                      |                   | 41             | Incorrect disc                        |
|                      |                   | 42             | Disc unreadable                       |
|                      |                   | 43             | MD-ROM abnormal                       |
|                      | 64H<br>65H        | 44             | MD abnormal                           |
|                      |                   | 45             | EJECT error                           |
|                      |                   | 46             | Scratches or non-recorded side        |
|                      |                   | 47             | MD high temperature detected          |
|                      |                   | 48             | Excessive current detected            |
|                      | 64H<br>65H        | 50             | Tray IN/OUT abnormal                  |
|                      |                   | 51             | Elevator abnormal                     |
|                      |                   | 52             | Clamp abnormal                        |

| Logical address name  | Logical address | Diagnosis code | Diagnosis details                                              |
|-----------------------|-----------------|----------------|----------------------------------------------------------------|
| Communication control | 01H             | 00             | No diagnosis                                                   |
|                       |                 | 01             | Abnormal reset                                                 |
|                       |                 | 10             | Abnormal +B                                                    |
|                       |                 | 11             | Abnormal ACC                                                   |
|                       |                 | 12             | Abnormal MUTE                                                  |
|                       |                 | 13             | Fuse broken                                                    |
|                       |                 | 20             | Microcomputer - abnormal                                       |
|                       |                 | 21             | ROM - abnormal                                                 |
|                       |                 | 22             | RAM - abnormal                                                 |
|                       |                 | 23             | Bus - abnormal                                                 |
|                       |                 | 24             | F-ROM - abnormal                                               |
|                       |                 | 25             | V-RAM - abnormal                                               |
|                       |                 | 26             | Gate delay abnormal                                            |
|                       |                 | 27             | Paint controller abnormal                                      |
|                       |                 | 28             | Backup memory abnormal                                         |
|                       |                 | 29             | Voice output controller abnormal                               |
|                       |                 | 2A             | Internal power supply abnormal                                 |
|                       |                 | 30             | Sync signal abnormal (input)                                   |
|                       |                 | 31             | Sync signal abnormal (output)                                  |
|                       |                 | D0             | ECU not connected                                              |
|                       |                 | D1             | Transmission abnormal                                          |
|                       |                 | D2             | Connecting confirmation: abnormal                              |
|                       |                 | D4             | Connecting confirmation: no response                           |
|                       |                 | D5             | Registered device data missing (History of registered devices) |
|                       |                 | D6             | Master unavailable                                             |
|                       |                 | D7             | Connecting confirmation: abnormal                              |
|                       |                 | D8             | Connecting confirmation: no response                           |
|                       |                 | DA             | Last mode abnormal                                             |
|                       |                 | DB             | Command/order: no response                                     |
|                       |                 | DC             | Mode status abnormal                                           |
|                       |                 | DD             | Transmission fault                                             |
|                       |                 | DE             | Master reset                                                   |
|                       |                 | DF             | Slave reset                                                    |
|                       |                 | E0             | Master abnormal                                                |
|                       |                 | E0             | Registration completion                                        |
|                       |                 | E1             | acknowledgement error                                          |
|                       |                 | E1             | Voice processor ON abnormal                                    |
|                       |                 | E2             | ON/OFF command or parameter abnormal                           |
|                       |                 | E3             | Registration command transmission                              |
|                       |                 | E4             | Multiple frames intermit                                       |
|                       |                 | FF             | Diagnosis - no response                                        |



## 7. GENERAL INFORMATION

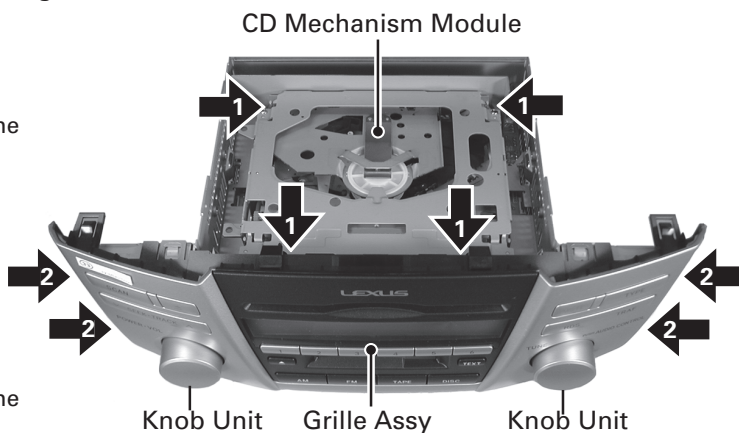
### 7.1 DIAGNOSIS

#### 7.1.1 DISASSEMBLY

##### ● Removing the CD Mechanism Module (Fig.1)

- ➡ 1 Remove the four screws.

Disconnect the connector and then remove the CD Mechanism Module.



##### ● Removing the Grille Assy (Fig.1)

- ➡ 2 Remove the four screws.

Disconnect the connector and then remove the Grille Assy.

When reassembling:

While putting Knob units back on each place, steady each PCB behind (Right PCB, Left PCB) with your other hand because the PCB is fragile.

Fig.1

##### ● Removing the Frame (Fig.2)

- ➡ 1 Remove the five screws and then remove the Frame.

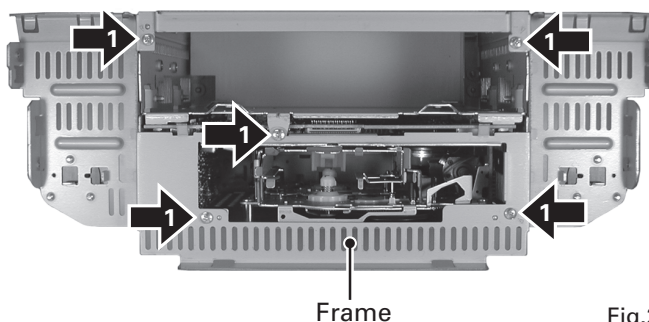


Fig.2

##### ● Removing Chassis (Fig.3)

- ➡ 1 Remove the ten screws and then remove the Chassis.

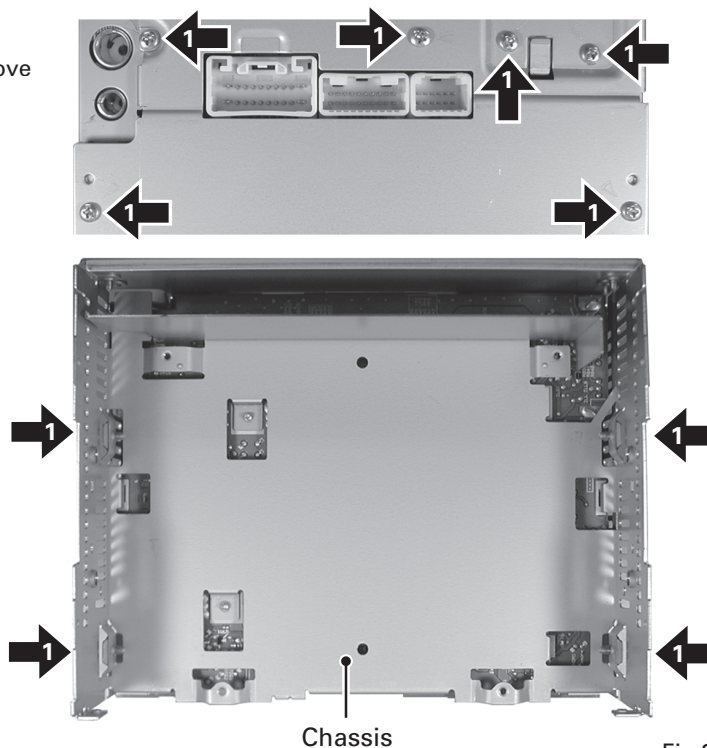


Fig.3

A

# ● Removing the Cassette Mechanism Module (Fig.4)

- ➡ **1** Remove the four screws and then remove the Cassette Mechanism Module.

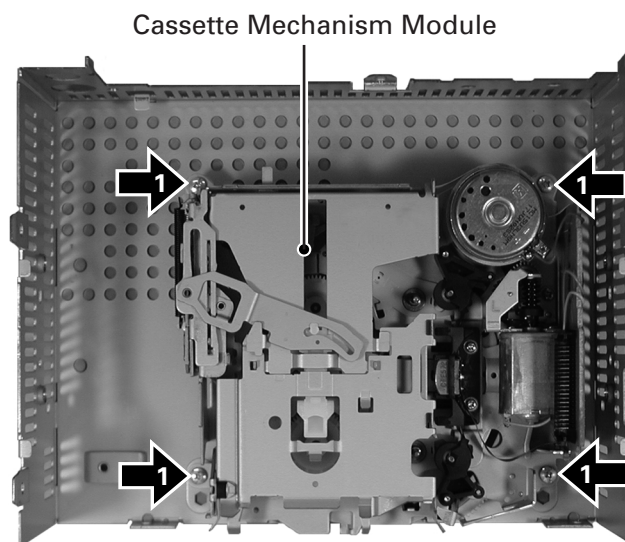


Fig.4

B

C

# ● Removing the Main Unit (Fig.5)

- ➡ **1** Straight the tabs at three locations indicated.
- ➡ **2** Remove the two screws and then remove the Main Unit.

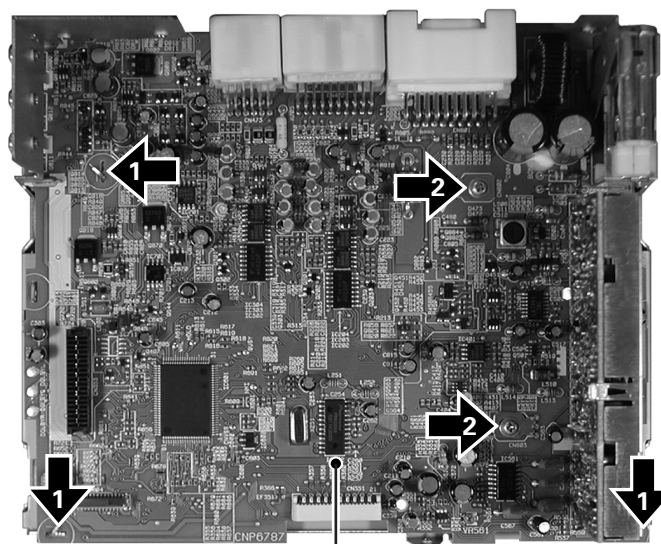


Fig.5

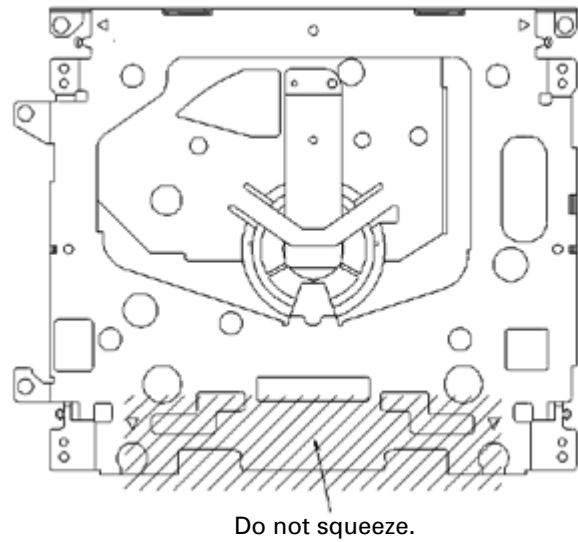
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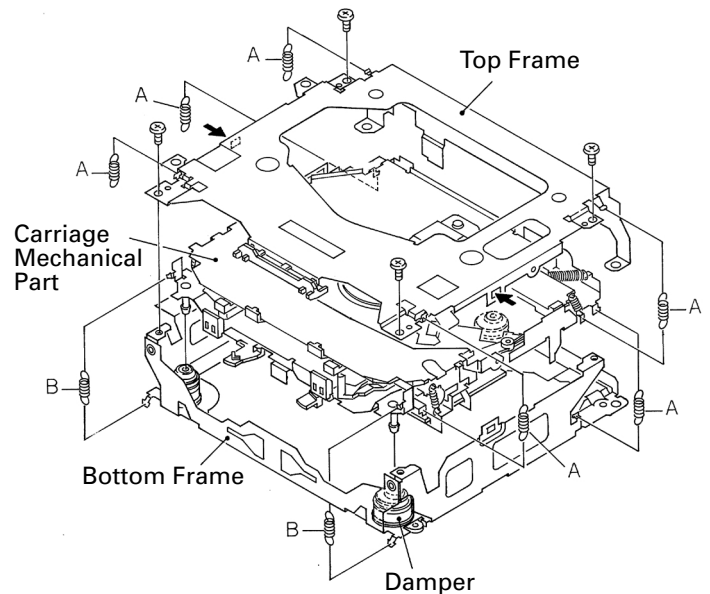
### ● How to hold the Mechanism Unit

1. Hold the top and bottom frame.
2. Do not squeeze top frame's front portion too tight, because it is fragile.



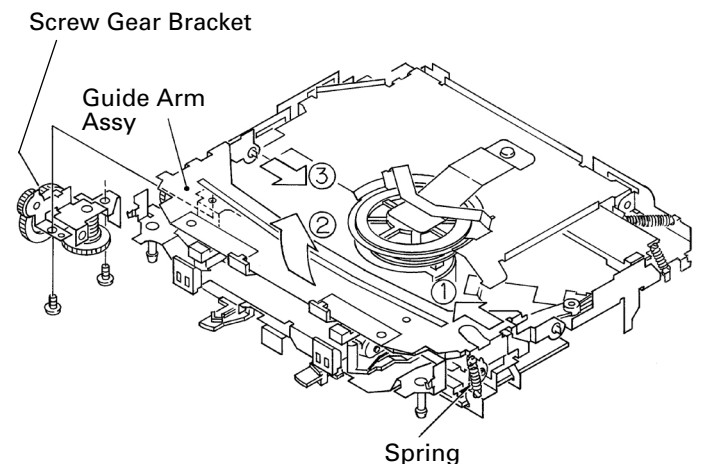
### ● How to remove the Top and Bottom Frame

1. When the disk is "clamp" state, unlock Spring A (6 pieces) and Spring B (2 pieces), and unscrew screws (4 pieces).
2. Unlock each 1 of pawl at the both side of the frame, then remove the top frame.
3. Remove the Carriage Mechanical part in such way that; you remove the mechanical part from 3 pieces of Damper while slowly pulling up the part.
4. Now, the top frame has been removed, and under this state, fix the genuine Connector again, and eject the disk.  
(Caution)  
When you reassemble the Carriage Mechanical part, apply a bit of alcohol to Dampers.



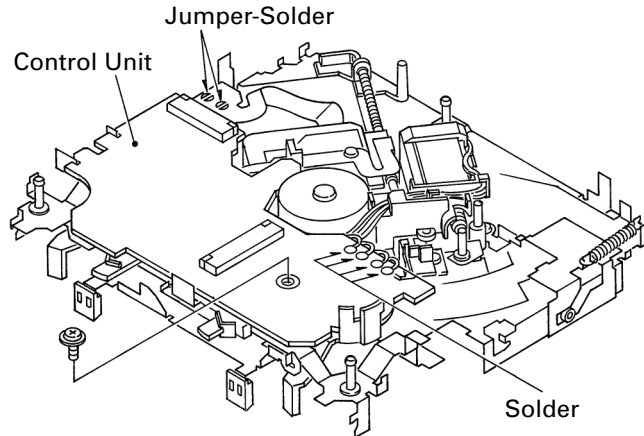
### ● How to remove the Guide Arm Assy

1. Unlock the spring (1 piece) at the right side of the assembly.
2. Unscrew screws (2 pieces), then remove the Screw Gear Bracket.
3. Shift the Guide Arm Assy to the left and slowly rotate it to the upper direction.
4. When the Guide Arm Assy rotates approximately 45 degree, shift the Assy to the right side direction and remove it.



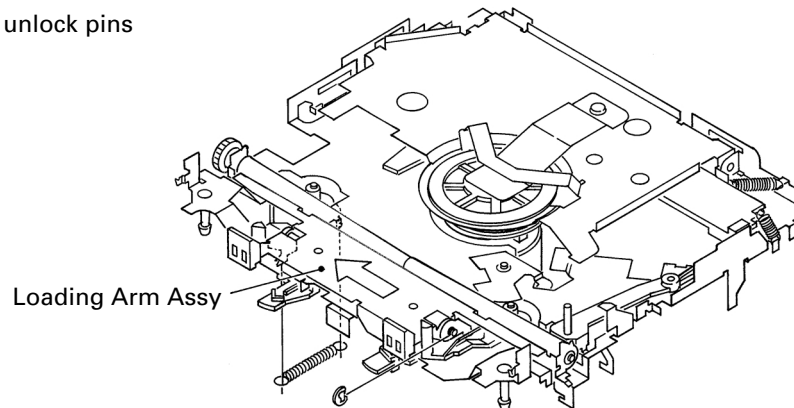
### ● How to remove the Control Unit

1. Give jumper-solder treatment to the Flexible Wire of the Pickup unit, then remove the wire from the Connector.
2. Remove all 4 points of solder-treatment on the Lead Wire. Also, unscrew the screw (1 piece).
3. Then, Remove the Control unit.  
(Caution)  
Be careful not to damage SW when you reassemble the Control Unit into the device.



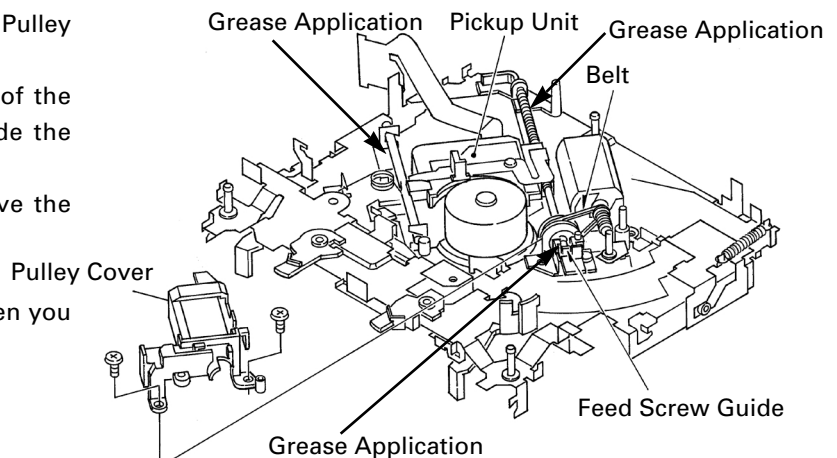
### ● How to remove the Loading Arm Assy

1. Unlock the spring (1 piece) and remove the E ring (1 piece) of the Fulcrum Shaft.
2. Shift the arm to the left side direction and unlock pins (2 pieces).



### ● How to remove the Pickup Unit

1. Unscrew 2 pieces of screws, then remove the Pulley Cover.
2. Remove the Feed Screw unit from the pawl of the Feed Screw Guide (The pawl is located inside the guide).
3. Remove the belt from the Pulley, then remove the Pickup unit.  
(Caution)  
Make sure not to stain the belt with grease when you fix the belt.





## 7.2 PARTS

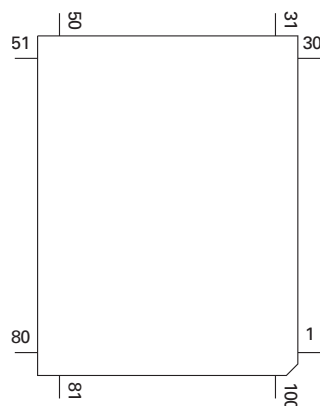
### 7.2.1 IC

#### Pin Functions (PD5772A)

| Pin No. | Pin Name | I/O | Function and Operation                          |
|---------|----------|-----|-------------------------------------------------|
| 1       | FMSD     | I   | Tuner : FM SD input                             |
| 2       | ST       | I   | Tuner : FM stereo indicator input               |
| 3       | XRCK     | O   | CD LSI clock output                             |
| 4       | LAMP     | O   | Lamp power supply control output                |
| 5       | LDO      | O   | LCD driver : Data output                        |
| 6       | LDI      | I   | LCD driver : Data input                         |
| 7       | LCK      | O   | LCD driver : Clock output                       |
| 8       | BYTE     | I   | Connect to ground                               |
| 9       | CNVSS    | I   | Ground                                          |
| 10      | LOCL     | O   | Tuner : Local L output                          |
| 11      | PCE2     | O   | Tuner : EEPROM chip enable output               |
| 12      | RESET    | I   | Reset Input                                     |
| 13      | XOUT     | O   | Crystal oscillating element connection terminal |
| 14      | VSS      |     | GND                                             |
| 15      | XIN      | I   | Crystal oscillating element connection terminal |
| 16      | VDD      |     | Power supply terminal                           |
| 17      | NMI      | I   | Connect to VDD                                  |
| 18      | RCK      | I   | RDS : Clock input                               |
| 19      | NC       |     | Not used                                        |
| 20      | CDEJ     | I   | CD EJECT key sense input                        |
| 21      | RX2      | I   | IP-BUS : Data input                             |
| 22      | IPPW     | O   | IP-BUS : Driver power supply output             |
| 23      | CD5VON   | O   | CD+5V power supply control output               |
| 24      | NC       |     | Not used                                        |
| 25      | XRST     | O   | CD LSI reset output                             |
| 26      | XCE      | O   | CD LSI chip enable output                       |
| 27      | DRST     | O   | RDS : Decoder reset output                      |
| 28      | BLIGHT   | O   | Back Light ON/OFF output                        |
| 29      | RX1      | I   | IP-BUS : Data input                             |
| 30      | TX       | O   | IP-BUS : Data output                            |
| 31      | PDO      | O   | Tuner : PLL IC data output                      |
| 32      | PDI      | I   | Tuner : PLL IC data input                       |
| 33      | PCK      | O   | Tuner : PLL IC clock output                     |
| 34      | PCE1     | O   | Tuner : PLL IC chip select output               |
| 35      | XPIO3    | I/O | CD LSI data input/output                        |
| 36      | XPIO2    | I/O | CD LSI data input/output                        |
| 37      | XPIO1    | I/O | CD LSI data input/output                        |
| 38      | XPIO0    | I/O | CD LSI data input/output                        |
| 39      | LOEJ     | O   | Load/Eject control output                       |
| 40      | CONT     | O   | Servo driver power supply control output        |
| 41      | FMPW     | O   | FM power supply control output                  |
| 42      | AMPW     | O   | AM power supply control output                  |
| 43      | SYSPWR   | O   | System power control output                     |
| 44      | RDT      | I   | RDS : Data input                                |
| 45      | SEL1b    | O   | Amp output select b output                      |
| 46      | SEL1a    | O   | Amp output select a output                      |
| 47      | INH1     | O   | Amp output inhibit output (Not used)            |
| 48      | SEL2b    | O   | RSE output select b output                      |
| 49      | SEL2a    | O   | RSE output select a output                      |
| 50      | INH2     | O   | RSE output inhibit output (Not used)            |
| 51      | RSEMUTE  | O   | RSE mute output                                 |
| 52      | SYSMUTE1 | O   | System mute output                              |
| 53      | SYSMUTE2 | O   | RSE system mute output                          |
| 54      | CLCONT   | O   | Driver input select output                      |
| 55      | SWVDD    | O   | Keyboard unit power supply control output       |
| 56      | AMPMUTE  | O   | AVC-LAN mute output                             |
| 57      | ADIM     | I   | ADIM information input                          |

| Pin No. | Pin Name | I/O | Function and Operation                                  |
|---------|----------|-----|---------------------------------------------------------|
| 58      | ROMDT    | I/O | ROM correction data input/output (Not used)             |
| 59      | ROMCLK   | O   | ROM correction clock output (Not used)                  |
| 60      | TEST     | I   | Test mode input                                         |
| 61      | ROMCS    | O   | ROM correction chip select output (Not used)            |
| 62      | VCC      |     | Power supply terminal                                   |
| 63      | VDCONT   | O   | VD power supply control                                 |
| 64      | VSS      |     | Ground                                                  |
| 65      | ISEN     | I   | Illumination power supply sense input                   |
| 66      | MS       | I   | Cassette mechanism : Music search sense input           |
| 67      | FR       | O   | Cassette mechanism : Head forward/reverse select output |
| 68      | PLAY     | O   | Cassette mechanism : MS gain select output              |
| 69      | MTL      | I   | Cassette mechanism : 70 $\mu$ s equalizer select input  |
| 70      | NR       | O   | Cassette mechanism : Dolby NR ON/OFF select output      |
| 71      | CSLOAD   | I   | Cassette mechanism : Tape loading sense input           |
| 72      | POS      | I   | Cassette mechanism : Position sense input               |
| 73      | ASENS    | I   | ACC power supply sense input                            |
| 74      | CSEJ     | I   | Tape eject sense input                                  |
| 75      | BSSENS   | I   | Back up power supply sense input                        |
| 76      | ES       | I   | Tape end sense input                                    |
| 77      | SC2      | O   | Cassette mechanism : Sub motor control 2 output         |
| 78      | SC1      | O   | Cassette mechanism : Sub motor control 1 output         |
| 79      | CM       | O   | Cassette mechanism : Capstan motor control output       |
| 80      | STBY     | O   | Cassette mechanism : Driver stand-by output             |
| 81      | POWER    | I   | POWER key input                                         |
| 82      | ENC1+    | I   | VOL encoder (+) input                                   |
| 83      | ENC1-    | I   | VOL encoder (-) input                                   |
| 84      | ENC2+    | I   | AUD encoder (+) input                                   |
| 85      | ENC2-    | I   | AUD encoder (-) input                                   |
| 86      | LCE1     | O   | LCD driver 1 chip enable output                         |
| 87      | HOME     | I   | Home SW sense                                           |
| 88      | LRST     | O   | LCD driver reset output                                 |
| 89      | DSCSNS   | I   | Mechanism SW sense input                                |
| 90      | RDSLK    |     | RDS : LK signal input                                   |
| 91      | TEMP     | I   | Temperature sense input                                 |
| 92      | VDSENS   | I   | VD power supply sense                                   |
| 93      | SL       | I   | Tuner : Signal level input                              |
| 94      | ILL-     | I   | Rheostat signal input                                   |
| 95      | STSW2    | I   | Steering switch 1 input                                 |
| 96      | AVSS     |     | A/D converter ground terminal                           |
| 97      | STSW1    | I   | Steering switch 1 input                                 |
| 98      | VREF     |     | A/D converter reference voltage terminal                |
| 99      | AVCC     |     | A/D converter power supply terminal                     |
| 100     | NC       |     | Not used                                                |

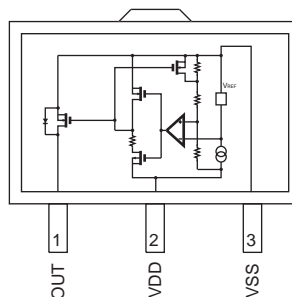
\* PD5772A



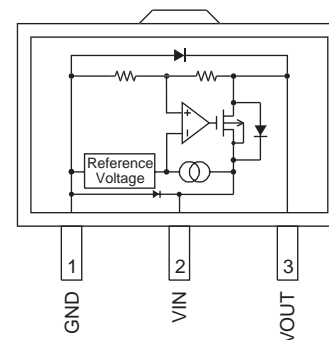
IC's marked by \* are MOS type.

Be careful in handling them because they are very liable to be damaged by electrostatic induction.

\* S-80835CNUA-B8U

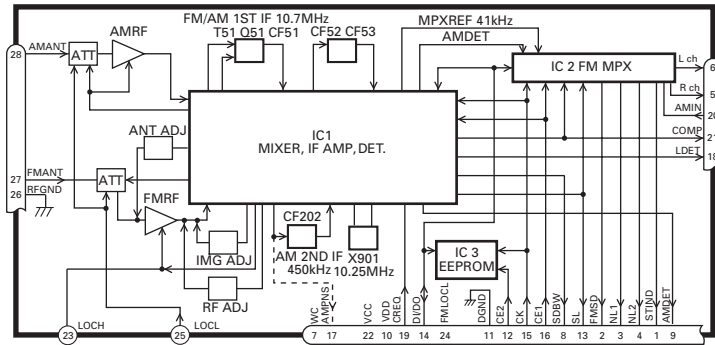


\* S-812C56AUA-C3K





## FM/AM Tuner Unit



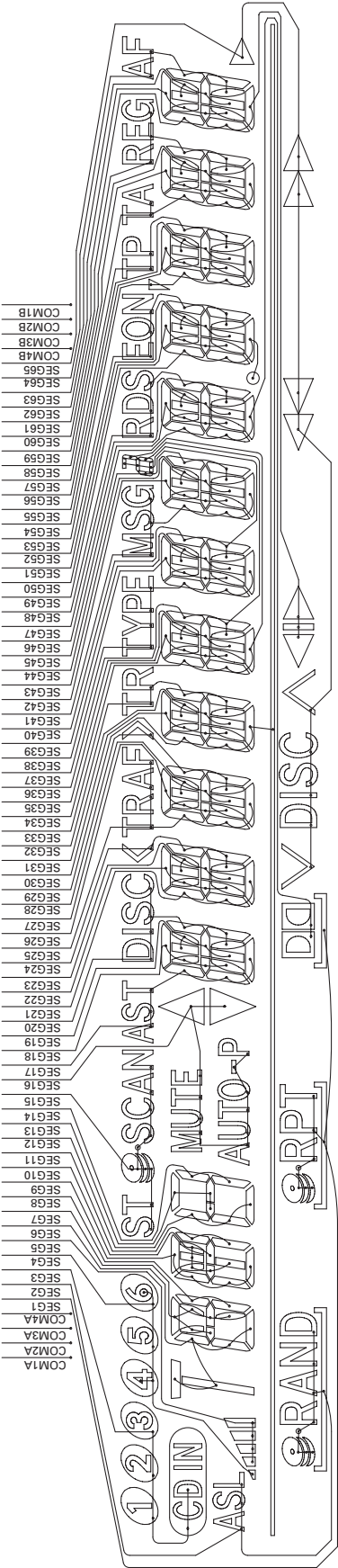
| No. | Symbol | I/O | Explain                                                                                                                                                                                                                                                                                 |
|-----|--------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | STIND  | O   | stereo indicator<br>"Low" when the FM stereo signals are received.<br>To be pulled up to the "VDD" at 47kΩ.                                                                                                                                                                             |
| 2   | FMSD   | O   | FM station detector<br>"High" when signals are received. To be pulled up to the "VDD" at 47kΩ<br>Meanwhile, 10kΩ should be used when taking diver FIX trigger from here and "High: 0.9VDD or more" and "Low: 250mV or less".<br>(Should satisfy the diver IC specifications)            |
| 3   | NL1    | O   | noise level-1<br>"High" when noise is received. Output for the RDS. GND at 47kΩ//1,800pF.                                                                                                                                                                                               |
| 4   | NL2    | O   | noise level-2<br>"High" when noise is received. Output for the RDS. GND at 36kΩ//330pF.                                                                                                                                                                                                 |
| 5   | Rch    | O   | R channel output<br>FM stereo "R-ch" signal output or AM audio output.<br>Add the specified de-emphasis constant.                                                                                                                                                                       |
| 6   | Lch    | O   | L channel output<br>FM stereo "L-ch" signal output or AM audio output.<br>Add the specified de-emphasis constant.                                                                                                                                                                       |
| 7   | WC     |     | write control<br>EEPROM write control. Writing permissible at "Low". Normally open.                                                                                                                                                                                                     |
| 8   | SDBW   | O   | SD bandwidth<br>SD bandwidth signal output. For detection of detuning data for the RDS.                                                                                                                                                                                                 |
| 9   | AMDET  | O   | AM detector output<br>AM detector output. r out < 100Ω                                                                                                                                                                                                                                  |
| 10  | VDD    |     | power supply<br>Power supply pin for the digital section.<br>DC 5V +/- 0.25V. Be careful about overlapping noise in the logic section.                                                                                                                                                  |
| 11  | DGND   |     | digital ground<br>Grounding for the digital section.                                                                                                                                                                                                                                    |
| 12  | CE2    | I   | chip enable-2<br>EEPROM chip enable. Active a "Low"<br>To be pulled up to the "VDD" at 47kΩ                                                                                                                                                                                             |
| 13  | SL     | I/O | signal level<br>Received FM/AM signal level (strength) output.<br>Connect the specified load resistor and capacitor (10k Ω+ 39k Ω//4,700pF)                                                                                                                                             |
| 14  | DI/DO  | I/O | data input/<br>data output<br>Data input/Data output<br>To be pulled up to the "VDD" at 47kΩ                                                                                                                                                                                            |
| 15  | CK     | I   | clock<br>Clock input To be pulled up to the "VDD" at 47kΩ                                                                                                                                                                                                                               |
| 16  | CE1    | I   | chip enable-1<br>AF-RF chip enable. Active at "High" To be grounded at 47kΩ                                                                                                                                                                                                             |
| 17  | AMPNS  | O   | AM PNS IF signal<br>IF signal output for AM PNS circuit.                                                                                                                                                                                                                                |
| 18  | LDET   | O   | lock detector<br>Active at "Low". To be pulled up to the "VDD" at 47kΩ                                                                                                                                                                                                                  |
| 19  | CREQ   | I   | current request<br>Active at "Low". To be grounded at 47kΩ                                                                                                                                                                                                                              |
| 20  | AMINI  |     | AM audio input<br>The frequency response and the level are set by connecting an external CR network with terminal AMIN as terminal AMDET. r in = 50kΩ                                                                                                                                   |
| 21  | COMP   | O   | composite signal<br>FM composite signal output. r out < 100Ω                                                                                                                                                                                                                            |
| 22  | VCC    |     | power supply<br>Analog section power supply pin. DC 8.4V +/- 0.3V                                                                                                                                                                                                                       |
| 23  | LOCH   | I   | local high<br>FM local high pin. When seeking local high, apply 5V together with "LOCL".                                                                                                                                                                                                |
| 24  | FMLOCL | I   | FM local low<br>FM local low pin. When seeking local low, apply 5V to the base of the NPN transistor with which the specified resistor is being connected to the emitter.<br>Keep it open in case of ordinary marketed models.                                                          |
| 25  | LOCL   | I   | local low<br>FM/AM local low pin. When seeking local low, apply 5V to the base of the NPN transistor. Since this pin is exclusive for AM when the FMLOCL is in use, do not drive it under FM.                                                                                           |
| 26  | RFGND  |     | RF ground<br>Grounding for the antenna section.                                                                                                                                                                                                                                         |
| 27  | FMANT  | I   | FM antenna input<br>FM antenna input. 75Ω. Surge absorber (DSP-201M-S00B) is necessary.                                                                                                                                                                                                 |
| 28  | AMANT  | I   | AM antenna input<br>AM antenna input. High impedance.<br>Connect to the antenna through an L (LAU type) of 4.7μH. To cope with the power transmission line hums, insert a series circuit consisting of an L (a coil of about 100mH) + R (a resistor of 470 Ω to 2.2kΩ) between the GND. |



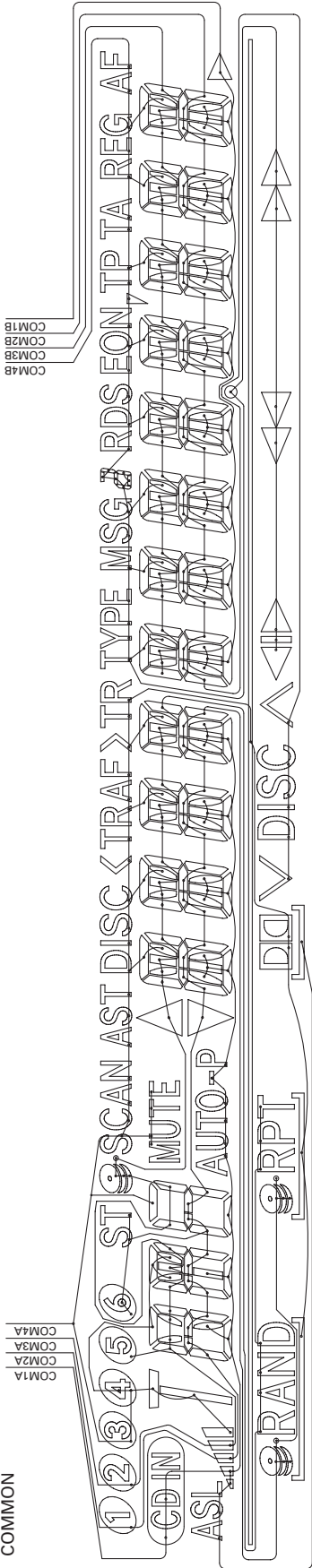
7.2.2 DISPLAY

● LCD(CAW1722)

SEGMENT



COMMON



A

7.3 EXPLANATION

7.3.1 SYSTEM BLOCK DIAGRAM

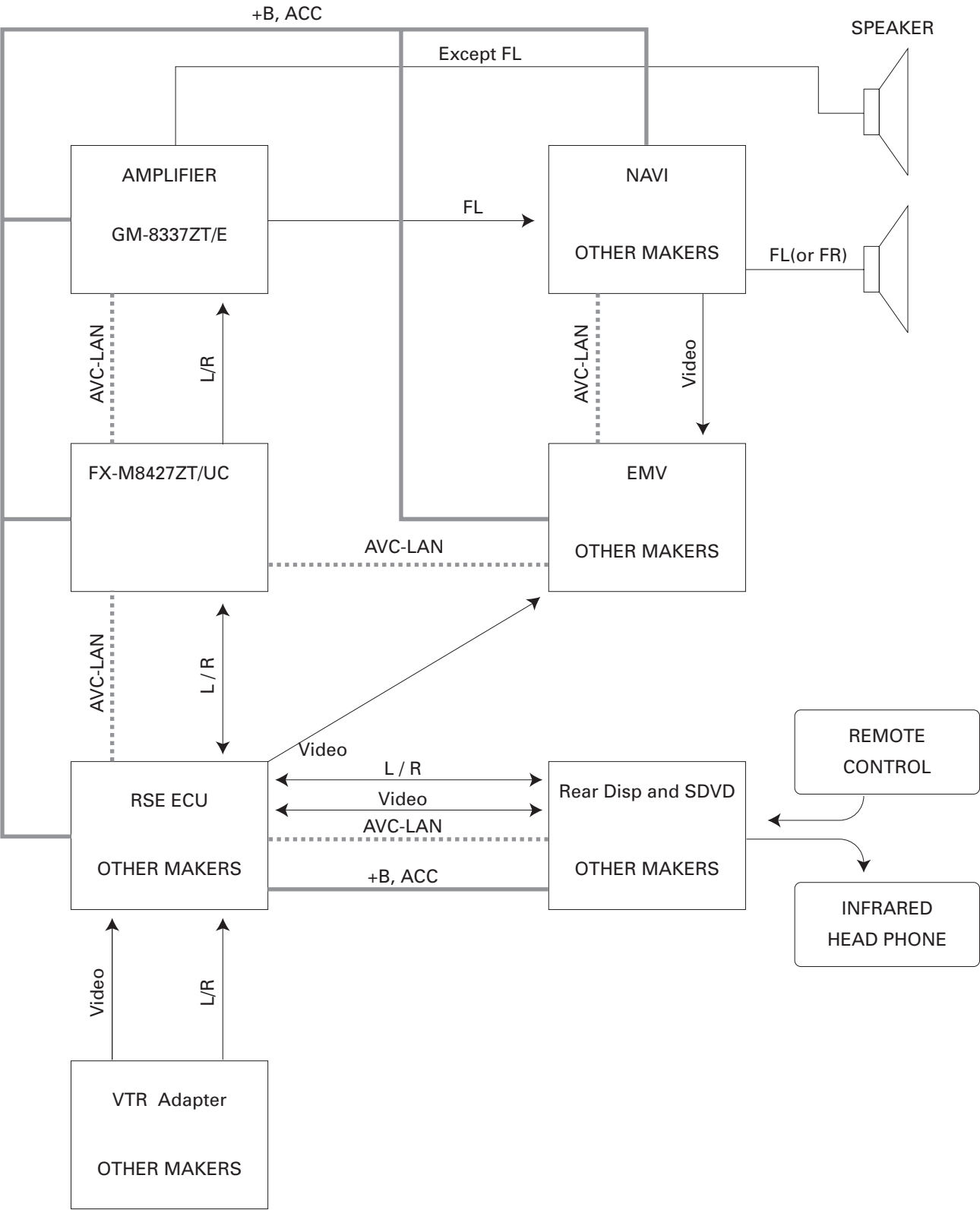
B

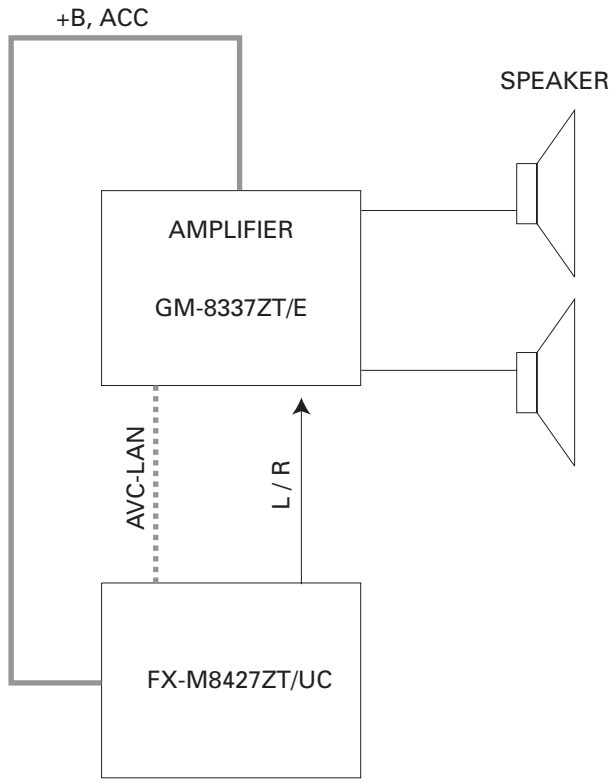
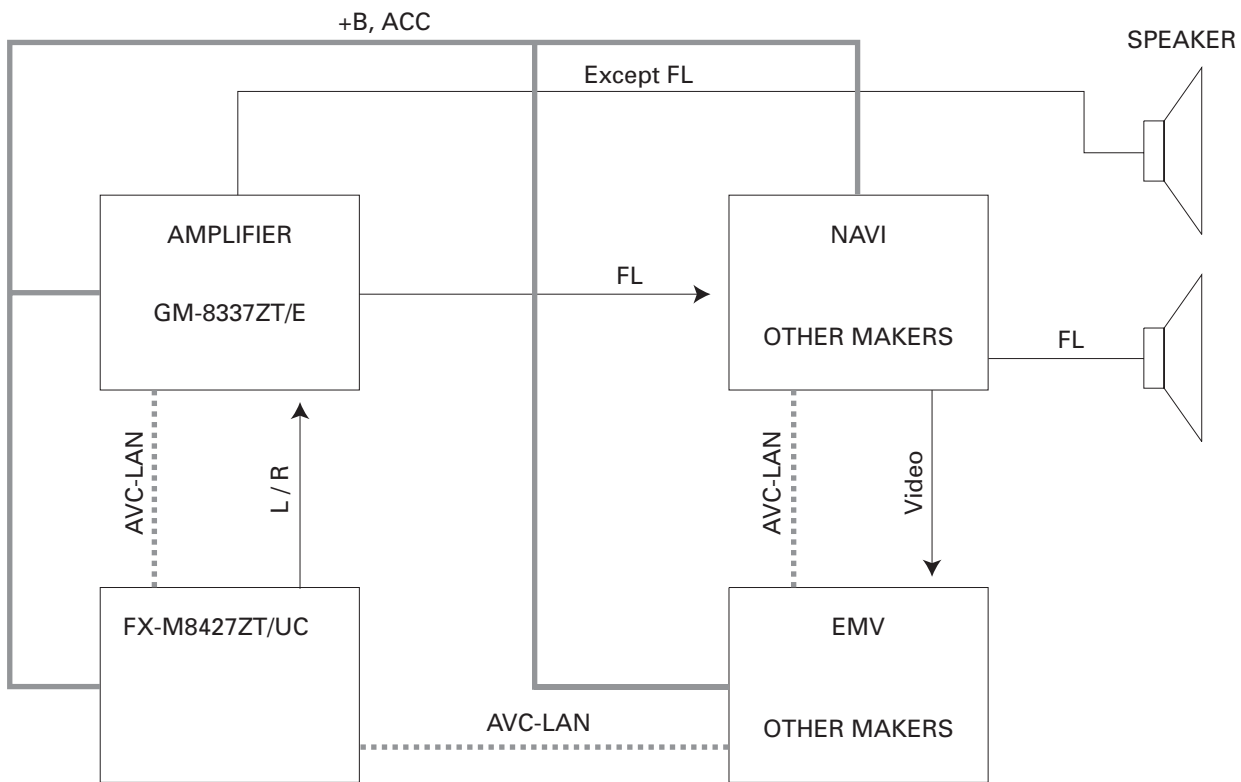
C

D

E

F





A

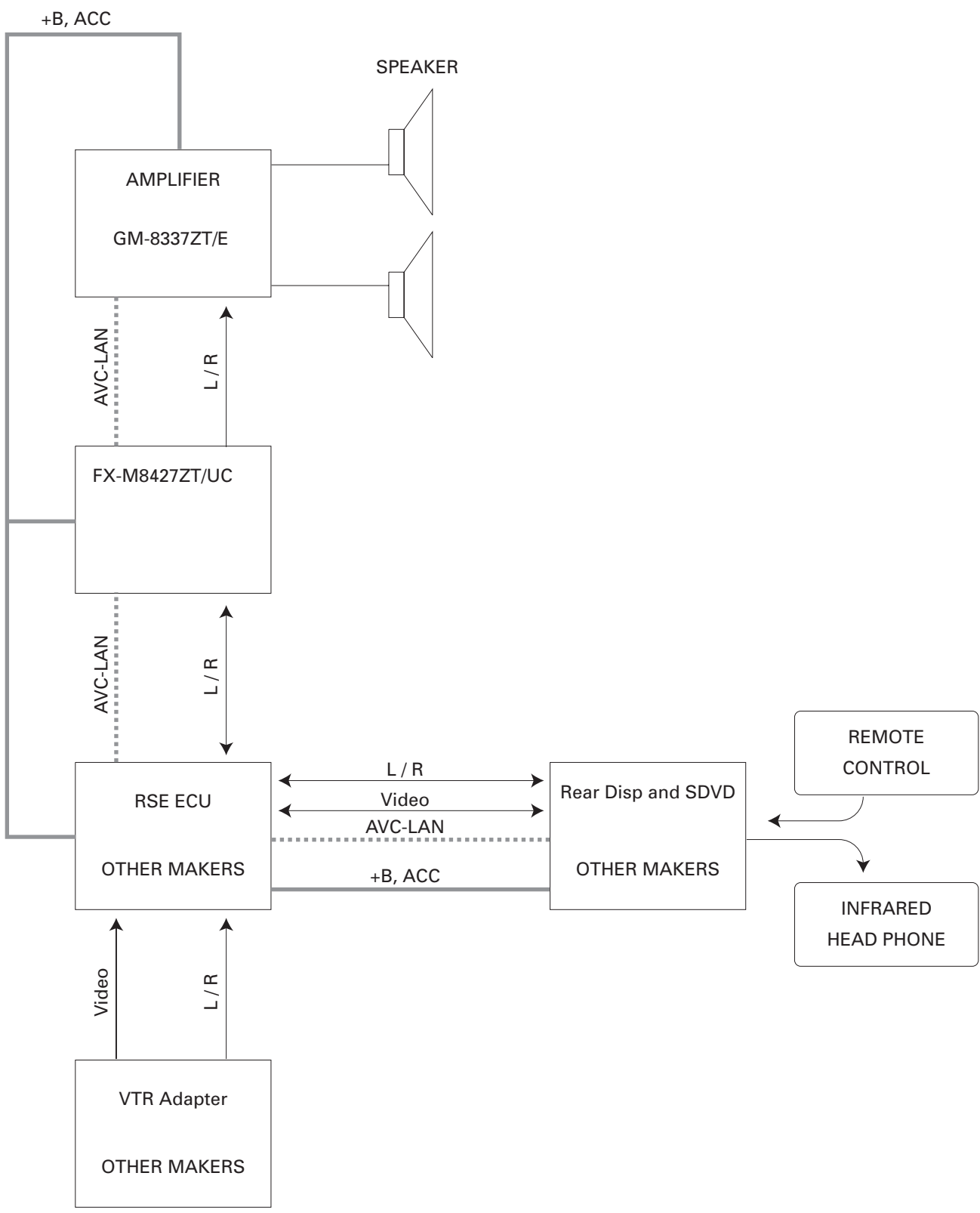
B

C

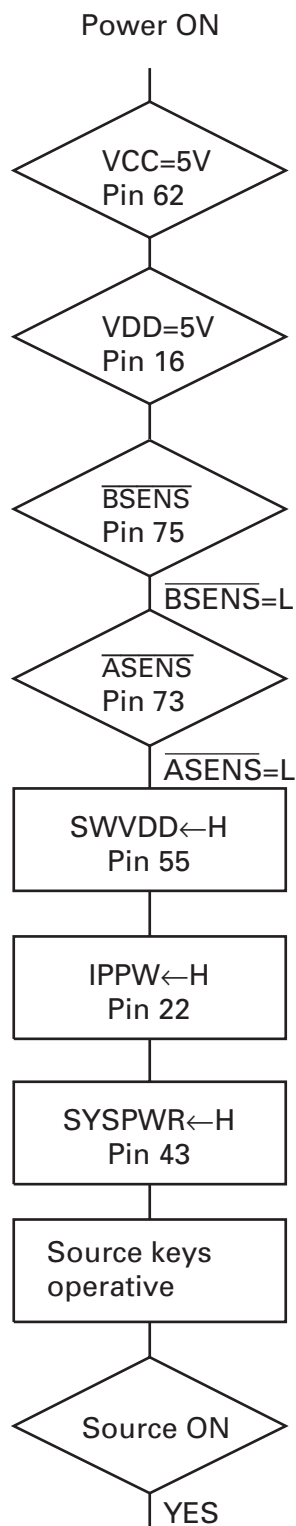
D

E

F



### 7.3.2 OPERATIONAL FLOW CHART



Completes power-on operation.(After that, proceed to each source operation.)

A

## 7.4 CLEANING



Before shipping out the product, be sure to clean the following portions by using the prescribed cleaning tools:

| Portions to be cleaned | Cleaning tools                                        |
|------------------------|-------------------------------------------------------|
| CD pickup lenses       | Cleaning liquid : GEM1004<br>Cleaning paper : GED-008 |

B

| Portions to be cleaned                      | Cleaning tools           |
|---------------------------------------------|--------------------------|
| Cassette heads<br>Pinch rollers<br>Capstans | Cleaning paper : GED-008 |

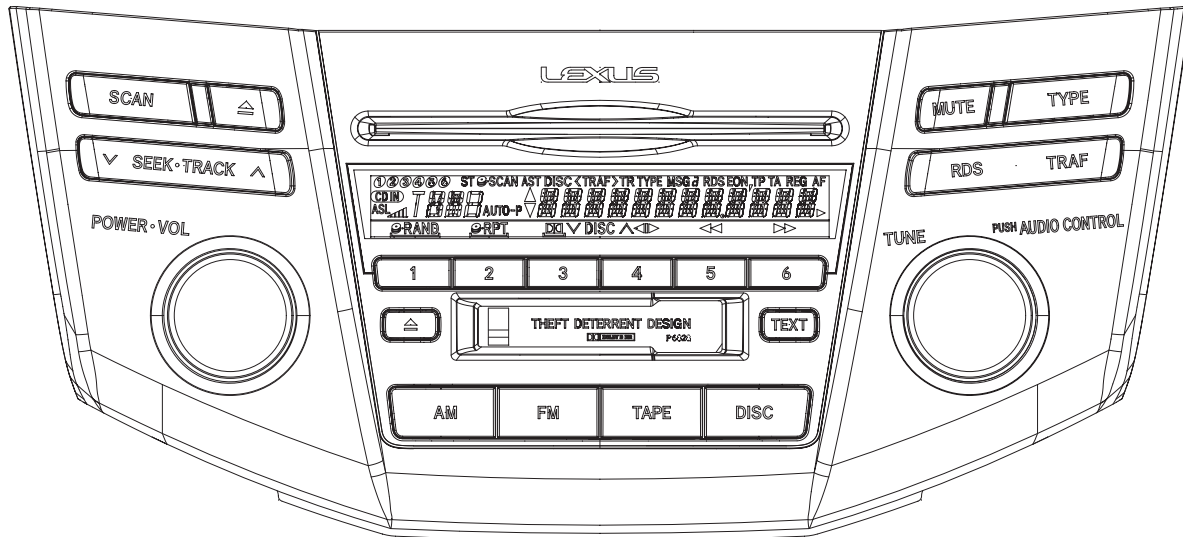
C

D

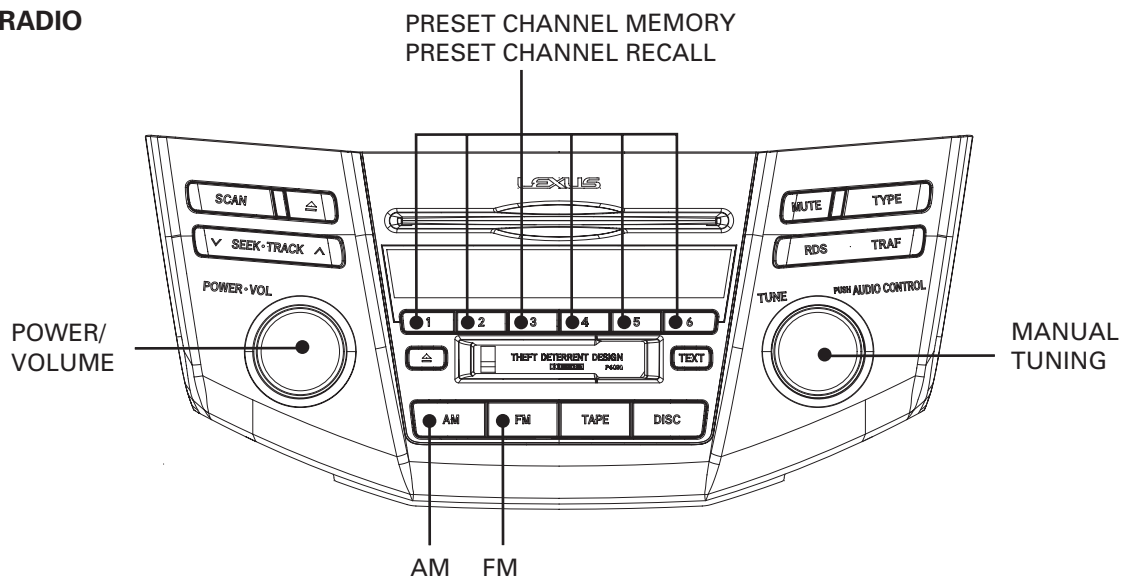
E

F

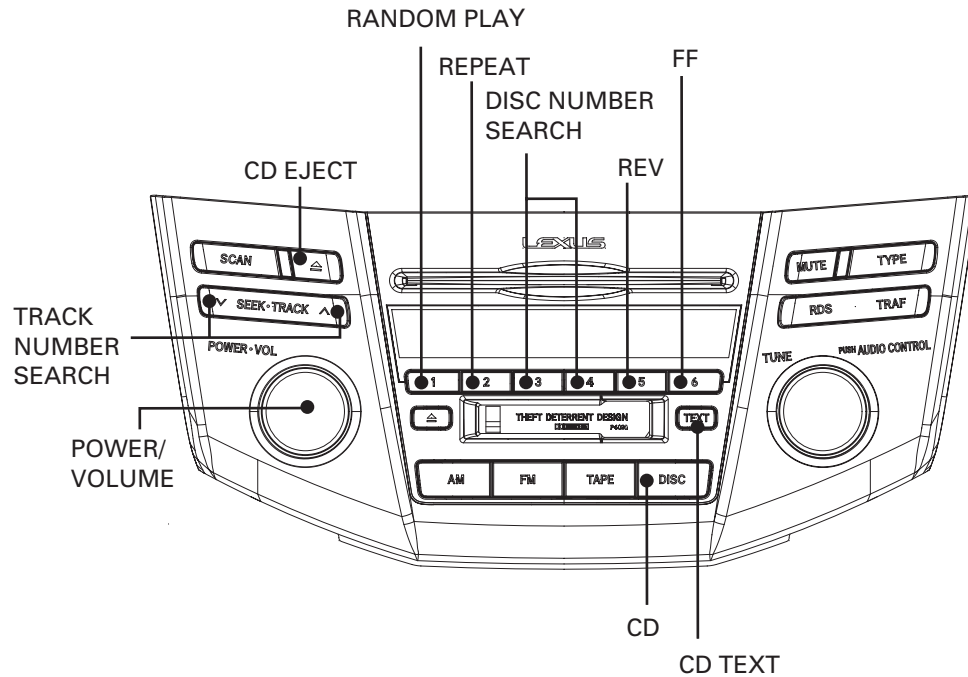
## 8. OPERATIONS



### ● RADIO



● CD



● TAPE

